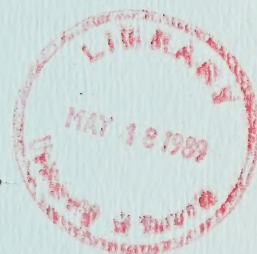


CA20N
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-H26

ENVIRONMENTAL ASSESSMENT BOARD



VOLUME: 97

DATE: Tuesday, May 2nd, 1989

BEFORE:

M.I. JEFFERY, Q.C., Chairman

E. MARTEL, Member

A. KOVEN, Member

FOR HEARING UPDATES CALL (TOLL-FREE): 1-800-387-8810

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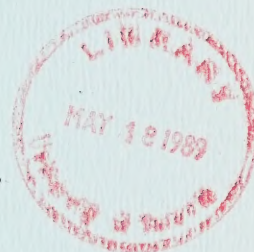


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HEARING ON THE PROPOSAL BY THE MINISTRY OF NATURAL
RESOURCES FOR A CLASS ENVIRONMENTAL ASSESSMENT FOR
TIMBER MANAGEMENT ON CROWN LANDS IN ONTARIO

IN THE MATTER of the Environmental
Assessment Act, R.S.O. 1980, c.140;

- and -

IN THE MATTER of the Class Environmental
Assessment for Timber Management on Crown
Lands in Ontario;

- and -

IN THE MATTER of an Order-in-Council
(O.C. 2449/87) authorizing the
Environmental Assessment Board to
administer a funding program, in
connection with the environmental
assessment hearing with respect to the
Timber Management Class
Environmental Assessment, and to
distribute funds to qualified
participants.

Hearing held at the Ramada Prince Arthur
Hotel, 17 North Cumberland St., Thunder
Bay, Ontario, on Tuesday, May 2nd,
1989, commencing at 9:00 a.m.

VOLUME 97

BEFORE:

MR. MICHAEL I. JEFFERY, Q.C.	Chairman
MR. ELIE MARTEL	Member
MRS. ANNE KOVEN	Member

A P P E A R A N C E S

MR. V. FREIDIN, Q.C.)	MINISTRY OF NATURAL
MS. C. BLASTORAH)	RESOURCES
MS. K. MURPHY)	
MS. Y. HERSCHER)	
MR. B. CAMPBELL)	MINISTRY OF ENVIRONMENT
MS. J. SEABORN)	
MR. R. TUER, Q.C.)	ONTARIO FOREST INDUSTRY
MR. R. COSMAN)	ASSOCIATION and ONTARIO
MS. E. CRONK)	LUMBER MANUFACTURERS'
MR. P.R. CASSIDY)	ASSOCIATION
MR. J. WILLIAMS, Q.C.	ONTARIO FEDERATION OF
MR. B.R. ARMSTRONG	ANGLERS & HUNTERS
MR. G.L. FIRMAN	
MR. D. HUNTER	NISHNAWBE-ASKI NATION and WINDIGO TRIBAL COUNCIL
MR. J.F. CASTRILLI)	
MS. M. SWENARCHUK)	FORESTS FOR TOMORROW
MR. R. LINDGREN)	
MR. P. SANFORD)	KIMBERLY-CLARK OF CANADA
MS. L. NICHOLLS)	LIMITED and SPRUCE FALLS
MR. D. WOOD)	POWER & PAPER COMPANY
MR. D. MacDONALD	ONTARIO FEDERATION OF LABOUR
MR. R. COTTON	BOISE CASCADE OF CANADA LTD.
MR. Y. GERVAIS)	ONTARIO TRAPPERS
MR. R. BARNES)	ASSOCIATION
MR. R. EDWARDS)	NORTHERN ONTARIO TOURIST
MR. B. McKERCHER)	OUTFITTERS ASSOCIATION
MR. L. GREENSPOON)	NORTHWATCH
MS. B. LLOYD)	

APPEARANCES: (Cont'd)

MR. J.W. ERICKSON, Q.C.) MR. B. BABCOCK)	RED LAKE-EAR FALLS JOINT MUNICIPAL COMMITTEE
MR. D. SCOTT) MR. J.S. TAYLOR)	NORTHWESTERN ONTARIO ASSOCIATED CHAMBERS OF COMMERCE
MR. J.W. HARBELL) MR. S.M. MAKUCH)	GREAT LAKES FOREST
MR. J. EBBS	ONTARIO PROFESSIONAL FORESTERS ASSOCIATION
MR. D. KING	VENTURE TOURISM ASSOCIATION OF ONTARIO
MR. D. COLBORNE	GRAND COUNCIL TREATY #3
MR. R. REILLY	ONTARIO METIS & ABORIGINAL ASSOCIATION
MR. H. GRAHAM	CANADIAN INSTITUTE OF FORESTRY (CENTRAL ONTARIO SECTION)
MR. G.J. KINLIN	DEPARTMENT OF JUSTICE
MR. S.J. STEPINAC	MINISTRY OF NORTHERN DEVELOPMENT & MINES
MR. M. COATES	ONTARIO FORESTRY ASSOCIATION
MR. P. ODORIZZI	BEARDMORE-LAKE NIPIGON WATCHDOG SOCIETY
MR. R.L. AXFORD	CANADIAN ASSOCIATION OF SINGLE INDUSTRY TOWNS
MR. M.O. EDWARDS	FORT FRANCES CHAMBER OF COMMERCE
MR. P.D. McCUTCHEON	GEORGE NIXON

(iii)

APPEARANCES: (Cont'd)

MR. C. BRUNETTA

NORTHWESTERN ONTARIO
TOURISM ASSOCIATION

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532B	Panel 11 Statement of Evidence, Volume II.	16283
533	Table of Contents for Natural Regeneration Methods.	16292
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1 ---Upon commencing at 9:07 a.m.

2 THE CHAIRMAN: Good morning. Please be
3 seated.

4 Mr. Freidin?

5 DAVID LOWELL EULER,
6 PETER PHILLIP HYNARD,
7 JOHN TRUMAN ALLIN,
8 RICHARD BRUCE GREENWOOD,
9 CAMERON D. CLARK,
10 GORDON C. OLDFORD, Resumed

11 RE-DIRECT EXAMINATION BY MR. FREIDIN:

12 Q. Now, Dr. Euler, you indicated to Mr.
13 Hanna that you didn't like sitting there and being
14 bored, you liked being asked questions, so I have
15 worked late into the night to develop as many questions
16 for you as possible. So let me start with you.

17 During the cross-examination by Ms.
18 Seaborn she asked you a number of questions regarding
19 the return periods for coming back to an area to cut a
20 block which was left for wildlife purposes. And, if
21 you would, could you refer to Exhibit 492 which are the
22 training messages.

23 DR. EULER: A. Yes.

24 Q. And, in particular, training message
25 No. 7 which deals with the subject matter of return
26 period.

27 A. Yes.

1 Q. In the third last paragraph on that
2 page there's reference to certain heights of the stand
3 and in the second last paragraph it states that:

4 "These return periods should be stated in
5 terms of height not time."

6 A. Yes.

7 Q. What is the reason for that
8 provision?

9 A. Well, because trees grow at different
10 rates on different sites at different -- under
11 different conditions and the key point is the value of
12 the regen is for cover for the animals and the key idea
13 is: How does that regeneration function as cover. And
14 that is a function of height not necessarily time.

15 Q. Thank you. Dr. Allin, Ms. Seaborn
16 asked you a question regarding return cuts and at page
17 4 of the training messages in relation to the Fish
18 Habitat Guidelines a statement is made in the second
19 last part:

20 "This return period should be measured in
21 height not time."

22 What's the reason for that provision?

23 DR. ALLIN: A. The reason is similar to
24 what Dr. Euler has indicated. The important thing in
25 terms of stabilizing a site with respect to concerns

1 like erosion, sedimentation, water yield or export of
2 nutrients is having a vigorously growing vegetation on
3 the site and, as Dr. Euler has indicated, that is a
4 function of site conditions and tree species and so on
5 and other forms of vegetation.

6 So that the important thing is really the
7 height of vegetation and, therefore, it's uptake of
8 water and nutrients rather than a specified time
9 period.

10 Q. Now, Dr. Euler, in questioning you
11 about the moose guidelines Ms. Seaborn asked you
12 whether the guidelines as they now stand are based on a
13 sound biological rationale. Do you recall that?

14 DR. EULER: A. Yes.

15 Q. Now, you indicated that they were
16 based on a sound biological rationale and you agreed
17 with her that that statement included the provisions in
18 the guidelines regarding the size of the clearcuts?

19 A. Yes.

20 Q. Now, in your evidence you indicated
21 that the ideal size of clearcuts which is identified in
22 the guidelines is 80 to 130 hectares; is that correct?

23 A. Yes.

24 Q. Could you advise me whether that in
25 the context of making decisions regarding moose

1 management, when decisions are made to have clearcuts
2 greater than 130 hectares, can such decisions be
3 equally based on a sound biological rationale?

4 A. Oh yes, they can be. The natural
5 world is a very varied place and in terms of our
6 guidelines we have to give broad general guidance that
7 applies most of the time over most of the province and
8 those indeed do.

9 However, sometimes it's apparent that in
10 some circumstances clearcuts can be bigger because that
11 is what would have happened in the natural world. A
12 jack pine sand plat, for example, when a fire occurred
13 it could easily be much bigger than this ideal for
14 moose and that is all of part of the ebb and flow of
15 the natural world.

16 Q. Thank you.

17 MR. FREIDIN: One moment, Mr. Chairman.

18 Q. We just saved you a question, Mr.
19 Clark. Mr. Hynard, Ms. Seaborn asked you some
20 questions regarding documenting the rationale for
21 silvicultural decisions. She asked, and I'm quoting:

22 "In terms of documenting the rationale
23 for deviation, the other thing we have
24 heard is that you do not believe it is
25 necessary to document the rationale for

1 deviating from silvicultural guides;
2 correct?"

3 And your response was:

4 "Yes, for the same reasons and I guess
5 there is a supplementary reason there and
6 that is that it is difficult to know
7 exactly when you are deviating."

8 Do you recall giving that evidence?

9 MR. HYNARD: A. I do.

10 Q. Could you explain why it would be
11 difficult to know when you were deviating from the
12 silvicultural guides?

13 A. Well, it would be difficult to know
14 when you were deviating from the silvicultural guides
15 because the guides themselves are flexible, they do not
16 state specifically what must be undertaken and so, in
17 the absence of a total direction like that, it's
18 difficult to know if you are deviating.

19 Q. Thank you. Now, Mr. Hynard, could
20 you turn to page 1046 of the Environmental Assessment
21 Document which is Exhibit 4.

22 A. I have that page.

23 Q. Now, I would like you to go down to
24 line 26. Do you have that, where it says
25 "implementation"?

1 A. Yes, I do.

2 Q. All right. Now, Ms. Seaborn directed
3 you to line 26 and, if we could, I would just like to
4 read together the portion that was quoted to you. The
5 quote was:

6 "Implementation of any of the practices
7 described in the silvicultural
8 groundrules is expected to result in
9 minimal and acceptable environmental
10 effects because no particular resource
11 features, land uses or values which could
12 be negatively affected have been
13 identified in the land area to which they
14 apply."

15 And Ms. Seaborn after citing that to you
16 asked, and I'm quoting:

17 "Now, in that statement, aren't you
18 really saying that because you have
19 identified your areas of concern and
20 taken those out of the land base, that is
21 the reason why environmental protection
22 is inherent in the groundrules?"

23 And your answer was:

24 "Your question is: Is that the reason
25 why environmental protection is inherent?

1 No, I don't think that is the only
2 reason."

3 You then referred to evidence that you
4 had given earlier, and I'm quoting again:

5 "Effects aren't significant because those
6 effects are no greater than would occur
7 in the natural environment taking into
8 account natural disturbances and their
9 frequency, intensity, duration and
10 extent."

11 Do you recall giving that evidence?

12 A. I do.

13 Q. Could you turn to page 16 of the
14 Environmental Assessment Document, please. Do you have
15 that page?

16 A. I do.

17 Q. Could you advise whether that page
18 speaks directly to the issue raised by Ms. Seaborn?

19 A. You're referring to the second full
20 paragraph?

21 Q. All right. Are you saying that that
22 in fact -- you are saying that speaks to her concern?
23 I'm asking you.

24 A. Yes, yes. Let me read it a second
25 time. Yes, it speaks to that.

1 Q. Could you read it please into the
2 record.

3 A. It says:

4 "For the remainder of the area of
5 operations where no particular resource
6 features, land uses or values which could
7 be negatively affected by timber
8 management operations are identified."

9 Q. If I could just stop you there, the
10 remainder of the area of operations is the area other
11 than the areas of concern?

12 A. That's right.

13 Q. All right. So would you continue
14 then.

15 A. "The range of acceptable
16 silvicultural practices which can be
17 employed are determined by practising
18 professional foresters. Those practices
19 represent normal timber management
20 practice for the management unit and the
21 area of operations to which they apply is
22 termed normal operating areas. Those
23 acceptable silvicultural practices are
24 designed to ensure that the main elements
25 of the environment which require

1 protection in such areas; namely, the
2 timber resource itself and related soils
3 and site characteristics are protected
4 and that potentially adverse
5 environmental effects are prevented or
6 minimized."

7 Q. Mr. Clark, Ms. Seaborn asked you to
8 assume that in the Oba Lake situation one of the
9 parties involved in that solution was not happy. You
10 then agreed with her that in that situation one of the
11 options for a person who was unhappy with the solution
12 that was in accordance with the guidelines -- you are
13 unhappy with the solution that was in accordance with
14 the guidelines, would be a request for a bump-up.

15 Do you recall that?

16 MR. CLARK: A. Yes, I do.

17 Q. She then asked the question, and I'm
18 quoting:

19 "Now, would you agree with me that
20 my client the Minister of the Environment
21 would want to know about this sort of
22 situation?"

23 Your answer was:

24 "Yes."

25 My question for you is: Had the Oba Lake

1 situation described by Ms. Seaborn with the unhappy
2 party and all have occurred during timber management
3 planning under the proposed planning process, would
4 information about that unhappiness be recorded and
5 fully available to the Minister of the Environment or
6 his staff for their review and consideration in dealing
7 with a bump-up request?

8 A. Yes, it would be.

9 Q. Where?

10 A. It would be included in the
11 supplementary documentation associated with the
12 comprehensive planning process for that particular area
13 of concern.

14 Q. Thank you. The next question is for
15 you, Mr. Greenwood. On April the 26th, which was last
16 Wednesday, Mr. Hanna was questioning you regarding a
17 number of scientific articles regarding compaction and
18 rutting. The articles included ones describing studies
19 in Newfoundland and I think there was one from Alberta.

20 Now, you were asked for your opinion
21 regarding the conclusions in those scientific articles
22 and when discussing the article where a laboratory
23 study involving compaction of soil in a cylinder was
24 discussed, you indicated that the results would not
25 necessarily be a proper reflection of what would occur

1 in the field. Do you remember giving that evidence?

2 MR. GREENWOOD: A. Yes, I do.

3 Q. Now, in response to your answer about
4 that particular laboratory experiment Mr. Hanna, I
5 think it's fair to say, questioned the weight to be
6 given to the answer that you gave by asking you whether
7 you had personally done any bulk density tests to which
8 you indicated no.

9 Could you advise me, Mr. Greenwood,
10 whether anything in your academic training or in your
11 work experience has particular relevance to your
12 ability to properly interpret scientific literature or
13 papers?

14 A. Yes. Obviously in your academic life
15 you, through your process of learning, are doing just
16 that, you are interpreting scientific papers.

17 In terms of my career, my last position
18 in the technology development units was primarily a
19 position to work both with the scientific community and
20 the field and, therefore, become very familiar with how
21 the scientific community both carries out this type of
22 experiment under very controlled conditions and then
23 reports that type of work in the scientific literature.
24 And my position was primarily to interpret that type of
25 literature and determine what might be applicable or

1 practical for using within the field.

2 Q. And would your work involve
3 discussing matters with both field people on the one
4 hand and the scientific community on the other?

5 A. Very much so.

6 Q. Did part of that work involve
7 attempts to take that scientific literature and
8 determine whether it could be applied in the field?

9 A. This was really the focus of
10 reviewing that literature was to determine what might
11 be -- excuse me -- what might be practical and
12 applicable for field use and then to take that
13 literature and to test it under operational conditions
14 to determine if in fact it could be put into practice.

15 Q. Thank you. For you, Dr. Allin. In
16 cross-examination from Mr. Hanna you were asked a
17 number of questions about critical fish habitat as
18 defined in the fish guidelines. You were asked some
19 questions about nursery areas.

20 When you were asked whether most
21 biologists know what nursery areas are you answered,
22 and I'm quoting you:

23 "I believe they would be able to identify
24 potential nursery areas."

25 Is there any particular reason that you

1 refer to the identification of potential nursery areas
2 as opposed to actual nursery areas when you were
3 answering that question?

4 DR. ALLIN: A. Well, in order to
5 identify actual nursery areas you would really have to
6 sample those habitats that you suspect are nursery
7 habitats to see if in fact young fish are using them.

8 So that the only practical way to deal
9 with this is basically to identify those areas that
10 have potential as nursery areas from our knowledge of
11 the biological requirements of young fish.

12 Q. And would the same regimen apply to
13 the indication of potential spawning areas?

14 A. Yes, that's correct. Obviously we
15 can't be everywhere to actually see fish spawning, so
16 what we have to rely on what we know about spawning
17 requirements of individual species and make a judgment
18 as to whether a particular habitat is suitable for what
19 species.

20 Q. Thank you.

21 MR. FREIDIN: One moment, Mr. Chairman.

22 Q. For you, Dr. Euler. In questioning
23 regarding the moose guidelines you indicated that in
24 paragraph 4(a) under the area of concern portion of the
25 guidelines -- paragraph 4(a) under the area of concern

1 portion of the guidelines that prescribed burns is the
2 preferred site preparation method?

3 DR. EULER: A. Yes.

4 Q. Now, when you said that, were you
5 speaking from a wildlife point of view?

6 A. Oh yes, from a wildlife habitat point
7 of view.

8 Q. And why is that site preparation
9 method the preferred one?

10 A. Well, it's just that it's a little
11 closer to what would happen in the natural world than
12 the other things; that is, it's a burn, the nutrients
13 are cycled more as they would be in the absence of
14 timber harvest.

15 Q. And are there any specific advantages
16 that you could think of which would occur for wildlife
17 as a result?

18 A. Well, it might make a few nutrients
19 more available more quickly and so there would be a
20 short-term advantage. This is not a big advantage, it
21 is not something that makes or breaks a program, it's
22 just there is a short-term advantage.

23 Q. The short-term advantage being...?

24 A. Well, you see, when you burn
25 something the nutrients are released more quickly into

1 the soil, they are taken up by the plants more quickly
2 and, therefore, they are in the leaves of the plants so
3 the wildlife that eat those plants it's like giving
4 them a shot of vitamins and they do get a little shot
5 of vitamins more quickly.

6 Well, this is a short-term advantage.
7 Other things being equal, you would use the prescribed
8 burn. It's not a big problem or even a big deal.

9 Q. Okay, thank you. Can you just keep
10 those moose guidelines there. During his
11 cross-examination Mr. Hanna referred you to the
12 specific area of concern section of the moose
13 guidelines.

14 A. Yes.

15 Q. And, in particular, he referred you
16 to paragraph 5(a)--

17 A. Yes.

18 Q. --which states:

19 "Natural regeneration of browse species
20 should be allowed where moose browse is
21 or will be in short supply."

22 After referring you to that section you
23 agreed with Mr. Hanna that that paragraph was the first
24 place in the guidelines where there was a reference to
25 the future. Do you recall giving that evidence?

1 A. Yes, I do. I recall that, yes.

2 Q. I just ask you to turn back one page
3 and would you direct your attention to the section
4 entitled General Guidelines.

5 A. Yes.

6 Q. And could you read the introductory
7 statement to that entire portion of the guidelines?

8 A. "To meet the present and future
9 habitat needs of moose throughout their
10 range, the following general guidelines
11 apply."

12 Q. That comment applies to the entire
13 section entitled General Guidelines?

14 A. Yes, it does.

15 Q. Thank you. Again for you, Dr. Euler.
16 During cross-examination by Mr. Hanna on April the 24th
17 he asked you a number of questions regarding the use of
18 index counts as part of the strategy of maintaining
19 viable populations.

20 A. Yes.

21 Q. You agreed with him that when using
22 index counts there can be a long detection time, a long
23 time to determine the appropriate remedy, and a delay
24 in implementing action due to, I think you described it
25 as the MNR bureaucracy.

1 Mr. Hanna asked whether irreversible
2 damage could occur to wildlife species between the time
3 a problem was detected through index counts and the
4 time action was taken and you responded, and I'm
5 quoting you now:

6 "You couldn't deny --"

7 Or:

8 "I couldn't deny the truth of that."

9 My question for you, Dr. Euler, is: What
10 is the likelihood of that happening?

11 A. Well, the likelihood is very small.
12 As I recall Mr. Hanna, I think if I recall correctly,
13 was putting a rather hypothetical situation to me and
14 you can't deny that a hypothetical would never ever
15 occur, but the probability is very low that we are
16 going to have a problem because as soon as these index
17 counts begin pointing in the direction that there is a
18 problem, then some kind of action can be taken
19 immediately to begin the process of correcting what may
20 be a difficult situation.

21 And so the chances of some irreversible
22 damage occurring while in this interim period are very
23 low.

24 Q. Again for you, Dr. Euler. Mr. Hanna
25 asked you a number of questions regarding the

1 red-shouldered hawk. Some of those questions revolved
2 around the paper that he had submitted to Professor
3 James and which he proudly indicated he received 80 are
4 per cent. Do you recall that?

5 A. Yes, I do.

6 Q. Now, Mr. Hanna posed a hypothetical
7 situation where a decline in red-shouldered hawk was
8 due to timber management and it commenced in 1951. He
9 then asked, and I'm quoting him:

10 "Have we not got a problem in that there
11 was no consideration of action until
12 now?"

13 And you responded:

14 "I wouldn't agree."

15 And then you referred to a Mr. James who
16 had indicated that in the Algonquin region
17 red-shouldered hawk was okay.

18 Now, are you aware as to whether the Mr.
19 James that you referred to and the Mr. James who marked
20 Mr. Hanna's paper were one in the same person?

21 A. Oh, to the best of my knowledge that
22 is Dr. Ross James, he's -- I believe his official title
23 is Assistant Curator of Ornithology at the Royal
24 Ontario Museum. He's been there for a number of years
25 and I'm sure it's the same person.

1 Q. What's ornithology?

2 A. Ornithology, sorry. The study of
3 birds.

4 Q. Exhibit 237 is the Ministry's
5 guideline in relation to red-shouldered hawks.

6 A. Yes.

7 Q. Did Mr. James have any involvement
8 with that document?

9 A. Yes, Dr. James wrote that document on
10 our behalf.

11 Q. You told Mr. Hanna that
12 red-shouldered hawk was assigned the status of rare--

13 A. Yes.

14 Q. --in 1983?

15 A. Yes.

16 Q. Could you advise what group was
17 instrumental in assigning that status?

18 A. The Ministry and a group called by
19 it's acronym COSEWIC.

20 Q. And.

21 A. Has that been entered? Shall I tell
22 the Board what exactly that stands for?

23 Q. I think the Board has been advised of
24 that.

25 A. Okay.

1 Q. Could you tell me, does Mr. James
2 have any connection with COSEWIC?

3 A. Well, he would be an advisor to
4 COSEWIC. I just don't know if he's actually on that
5 committee or not, but I know he would be an advisor to
6 it.

7 Q. And when you say that committee,
8 which committee are you referring to?

9 A. That is COSEWIC.

10 Q. All right. And is there a committee
11 that deals with birds or a sub-committee that deals
12 with birds?

13 A. Yes, yes.

14 Q. And would it be that sub-committee
15 that would be involved in making the recommendation
16 that that bird, the red-shouldered hawk--

17 A. Oh yes.

18 Q. --be assigned the category of rare?

19 A. Yes, mm-hmm.

20 Q. And could you describe the type of
21 people who would be on that sub-committee?

22 A. Well, they would be people from the
23 Canadian Wildlife Service, Parks Canada, the National
24 Museum of Science, Fisheries and Oceans, World Wildlife
25 Fund, the Canadian Nature Federation, Canadian Wildlife

1 Federation, Cooperators from all the provincial
2 governments and selected volunteers.

3 Q. Thank you. Now, Ms. Swenarchuk asked
4 you a number of questions about red-shouldered hawks as
5 well. You agreed with her comment that the interest in
6 red-shouldered hawks by the Ministry in Carleton Place
7 District was partly due to interest in that particular
8 bird by the public.

9 I think you stated that there is no
10 question that it is getting more attention because of
11 public pressure. Do you recall giving that evidence?

12 A. Yes, I do.

13 Q. Ms. Swenarchuk made a comment that
14 the red-shouldered hawk was not necessarily the most
15 rare bird, in her view, that had not received attention
16 up to the present time and in that vein she asked the
17 following rhetorical question at 14782 of the
18 transcript. The question was:

19 "Unfortunately, the Ministry doesn't have
20 a province-wide monitoring program that
21 would have identified the rare bird that
22 most needs attention right now?"

23 A. Well, let's start with the Federation
24 of Ontario Naturalists. We have participated with the
25 Federation of Ontario Naturalists now for several

1 years, six or seven years at least, in coming up with
2 data on rare birds in the province.

3 We helped fund the Breeding Bird Atlas of
4 Ontario, we provided aircraft, for example, to
5 volunteers to get them into remote areas to look at and
6 census rare birds, we provided actual funding to the
7 group to help in their effort and we were very, very
8 involved.

9 And we have worked in the second phase of
10 the Breeding Bird Atlas which is, the Federation of
11 Ontario Naturalists' efforts to find out more about
12 those particular birds that were considered rare.
13 We're giving them money to find that out, we're asking
14 for them to advise us about which birds they consider
15 rare and we've had a number of meetings with them to
16 talk about this very issue.

17 They have prepared a list of rare birds
18 of Ontario and we are looking at that list very, very
19 intently. Most of the rare birds on that list are not
20 in the area of the undertaking and have nothing to do
21 with forest management at all. And so a lot of effort
22 is being spent on rare birds that are outside of the
23 area of the undertaking. Okay. So that is our
24 involvement with the Federation of Ontario Naturalists.

25 Now, we also work closely with the

1 Canadian Wildlife Service in monitoring birds in
2 general across the area of the undertaking. The
3 Canadian Wildlife Service, as the federal government,
4 has linked in with some international efforts at
5 measuring bird populations using standard methods world
6 wide.

7 We are cooperating with them; in fact, we
8 have meetings going on, we're putting money into that
9 program, they're putting money into that program. So
10 that when we have finished, we have world-wide
11 acceptance of techniques and methodology to identify
12 just which birds are rare and which birds are
13 endangered, which are threatened and then we can begin
14 the process of figuring out why.

15 Another agency that's been right in the
16 middle of all of this is the World Wildlife Fund where
17 we have cooperated with the World Wildlife Fund, and
18 they have put some monies into these projects, we have
19 put monies into these projects. And so at the end of
20 it you can't figure out exactly where each dollar came
21 from, but it really doesn't matter because it's a major
22 cooperative effort to identify those birds that are
23 rare and begin to take remedial action.

24 We have worked closely with Dr. Ross
25 James at the Royal Ontario Museum. He's funded to do

1 research across the north on various kinds of rare
2 birds, he is a constant collaborator with us. We had
3 him at a seminar just not long ago in Algonquin region,
4 and the whole purpose of his being there was to talk
5 about red-shouldered hawks, to give seminars to our
6 people about how to identify red-shouldered hawks, to
7 talk about their habitat and their nest.

8 We are currently working with him to have
9 some special packages and little packages that we can
10 pass to our people that when they see these kinds of
11 nests in the forest they know what to do.

12 So there is a major, major effort on our
13 part to try to identify the rare birds and which needs
14 more attention, which are in the area of the
15 undertaking, and how best to take remedial action.

16 It is a very difficult problem though
17 because sometimes birds become rare for a variety of
18 reasons and it may not have anything to do with forest
19 management. And if that's the case, then you have to
20 find the true cause of the problem before you can take
21 any action because if you take action on something and
22 you haven't got the true cause, not only do you waste
23 your effort, but the animal continues to decline in the
24 interim period.

25 Did that cover it, Mr. Freidin?

1 Q. Thank you. Again for you, Dr. Euler.
2 Shelter patches are described in the general
3 guidelines -- or the general guideline portion of the
4 moose guidelines?

5 A. Yes.

6 Q. And Mr. Tuer asked you a number of
7 questions regarding shelter patches. He asked you
8 whether or not it was true that with certain species of
9 trees there is a strong tendency for blowdown and you
10 agreed with him.

11 Could you explain what a shelter patch is
12 and the role it plays as moose habitat?

13 A. Yes. We talk about moose habitat.
14 First we talk about it in terms of cut size because
15 that's something that, one, people can relate to and
16 because the natural forest is a disturbance forest, so
17 that in the past disturbances have occurred and from a
18 moose's point of view it may not make too much
19 difference what the disturbance was, whether it was
20 fire, budworm, wind or humans cutting down the trees;
21 the fact is a disturbance is what is important to the
22 animal.

23 Well, as soon as you do that, as soon as
24 you say: Well, the ideal disturbance size is 80 to 130
25 hectares, you run smack into the fact that the

1 realities of the day mean you can't always disturb the
2 forest just the way the moose wants it, and that's just
3 a fact that you have to live with. So what we have
4 tried to say throughout these guidelines is we
5 recognize that we can't go out and disturb the forest
6 just the way the moose wants it so he finds a happy
7 home there and, therefore, there are a couple of
8 alternatives.

9 Sometimes the cuts may have to be a
10 little bit larger just given the realities of the day.
11 However, the second way to deal with this problem is if
12 you have to make your cuts larger, one of the ways that
13 you can mitigate the effect of the big cut is to leave
14 these shelter patches in the middle, and that tends to
15 break up the cut, provide some habitat for the moose in
16 the area that has been disturbed and generally adds to
17 the diversity of the area because, from a moose's point
18 of view, if the occasional shelter patch blows down,
19 it's not that big a deal because then some food plants
20 will grow there.

21 And so, again, speaking from the moose's
22 point of view, these shelter patches have value either
23 as actual shelter where he can hide in them or, if they
24 do happen to blowdown, it may provide some food at a
25 different stage in a different way than was there

1 before. And we have to remember that we built these
2 moose guidelines from the point of view of the moose so
3 that people then, when they are planning a forest
4 management operation, they try to have a sense then of
5 what the moose needs out there and they incorporate
6 that as best they can into the planning process.

7 Q. Now, there are references to the size
8 of the shelter patches and what is the size that is
9 referred to?

10 A. Well, we have given as a general rule
11 shelter patches three to five hectares in size are the
12 best.

13 Q. All right. And are we talking of
14 conifer?

15 A. Well, we have specified with at least
16 one third conifer. The very best shelter patches would
17 be mixed wood with conifer and some hardwood mixed in.

18 Q. Okay. Now, Mr. Greenwood, speaking
19 of shelter patches of the type described by Dr. Euler,
20 in a situation where a shelter patch is lost due to
21 blowdown, is it likely that all the trees are blown
22 down during one wind storm?

23 MR. GREENWOOD: A. No, that would not
24 normally be the case.

25 Q. So you would have partial blowdown?

1 A. That's correct.

2 Q. Dr. Euler, if you have partial
3 blowdown of a shelter patch, does that necessarily make
4 the remaining trees unsuitable for moose habitat?

5 DR. EULER: A. Oh, no. No, it could be
6 excellent moose habitat.

7 Q. Now, if there is a blowdown in whole
8 or in part and it's of sufficient magnitude that the
9 shelter patch is not useful for the purpose of shelter
10 as a shelter patch, will the blowdown material, the
11 material which has actually been blown down, serve any
12 value for other wildlife?

13 A. Oh, yes. Yes, excellent. Yeah.
14 There are all kinds of little creatures that would use
15 these blown down shelter patches. Winter wrens, for
16 example, have -- their habitat is almost entirely
17 confined to trees that have blown over and the root
18 system has lifted up and is extending up into the air
19 above the forest floor and there is a tangle of roots
20 and brush and so on.

21 Well, winter wrens seek those areas to
22 construct their nests. And so almost everything that
23 happens in the natural world like that benefits
24 something.

25 Q. And would those trees which have been

1 blown down, would they benefit species other than
2 wrens?

3 A. Yes, all kinds of little creatures
4 would live in there. Mice and other small birds would
5 live in there and, therefore, they would be used as
6 hunting places for predators like marten or fisher.
7 And so it's all part of the web of life that's out
8 there.

9 Q. And that material, after it had been
10 blown down and it was lying there on the ground, does
11 the term downed and woody material, would that apply to
12 that particular situation?

13 A. Yes, that's a term that we often use,
14 downed and dead, or downed woody material. That's a
15 term we often use to talk about material that's on the
16 ground that has been living and is now dead and it's
17 just -- it's full of value to wildlife. Little
18 creatures live under it as well, salamanders and so on
19 that form the base of the food chain of much of the
20 other creatures that are out there.

21 Q. Thank you. Mr. Oldford, you probably
22 thought I was going to forget about you. In
23 cross-examination by Ms. Swenarchuk she asked a number
24 of questions about the value to the company of wood to
25 be extracted. You recall discussing that subject

1 matter with her, I take it?

2 MR. OLDFORD: A. Yes, just barely
3 though.

4 Q. Now, in that discussion you indicated
5 that you were, and I'm quoting you now:

6 "Looking at the nominal value of wood
7 through stumpage."

8 What did you mean by nominal when you
9 said that?

10 A. What I was referring to there was the
11 fact that if you look at the amount of money that's
12 paid in the form of stumpage against the final product
13 value it's relatively small, but the price that is paid
14 for stumpage is really what the wood is worth on the
15 stump.

16 Q. Now, who incurs the expense of adding
17 value to the value of the tree once cut?

18 A. The industry.

19 Q. Thank you. I would like to stick
20 with you here, Mr. Oldford, and ask you a question
21 regarding monies paid to FMAs for road construction or
22 for roads.

23 Part of the cross-examination by Ms.
24 Swenarchuk dealt with the amount of monies paid by the
25 province under the FMA program for road construction.

1 You indicated that the monies paid had been declining
2 very rapidly as the Ministry achieved the objective of
3 accessing the old forest and also as a result of not
4 having available as much money as could be put into
5 that activity.

6 After mentioning the amount of money
7 which had been put into FMA roads in this fiscal year,
8 you stated, and I'm quoting you:

9 "So the message to leave there is in
10 total FMA road costs the Province of
11 Ontario is in there in a nominal sort of
12 way."

13 What did you mean by the phrase 'in a
14 nominal sort of way', in that context?

15 A. Well, I didn't want to leave the
16 impression that an expenditure of \$17-million on roads
17 was small.

18 Q. \$17-million spent by whom?

19 A. By the Ministry of Natural
20 Resources--

21 Q. Okay.

22 A. --through the FMA program to the
23 forest industry, but when one considers that
24 expenditure in light of the total expenditure, which I
25 mentioned earlier was in the range of \$6 a cubic metre,

1 totalling to something in the order of \$110- to
2 \$120-million, that was the context in which I was using
3 the word nominal.

4 Q. And that was the payments you
5 referred to then, the 17-million on behalf of the Crown
6 and the 110- to 120-million --

7 A. Which is the total expenditure that
8 the industry incurs, in my professional opinion, in one
9 operating year.

10 Q. And those are costs incurred for
11 primary and secondary roads?

12 A. And road maintenance.

13 Q. On primary and secondary roads?

14 A. Yes.

15 Q. Thank you. Mr. Hynard, in
16 cross-examination by Ms. Swenarchuk you indicated that
17 wood had different values at different stages of the
18 process. You started to expand by saying that standing
19 timber has a value but you were interrupted at that
20 point by Ms. Swenarchuk, she went on to another area
21 and you weren't permitted to complete that answer.

22 I would like you to in fact complete that
23 answer now.

24 MR. HYNARD: A. Well, yes. I said the
25 wood had different values at different stages of its

1 processing and that first stage is stumpage. Stumpage
2 is the value that a buyer is prepared to pay a seller
3 for the right to cut that timber.

4 A second value of that wood would be at
5 roadside after the company had incurred expenses at
6 harvesting the timber. So roadside timber has a higher
7 value. After that wood has been transported to the
8 mill it has an even higher value, the value at the mill
9 gate.

10 At the end of the manufacturing it has
11 another value as a finished product and there would be
12 further values, the values of products of secondary
13 manufacture beyond that.

14 Q. Could you advise me, is there some --
15 is it important for any reason to understand that the
16 wood can have these different values at these different
17 stages?

18 A. Oh, well, absolutely. Our
19 interest -- the Ministry's timber production interest
20 is to provide for an economic contribution through the
21 forest-based industries and different species and
22 products of timber have different capacities to provide
23 that economic contribution.

24 So it's important for us to understand
25 the potential of that timber to undergo those

1 manufacturing processes and gain that extra value for
2 the simple reason that it's creating economic wealth in
3 the process.

4 Q. Thank you. Sticking with you, Mr.
5 Hynard. During cross-examination by Ms. Swenarchuk Mr.
6 Oldford was asked how prevalent strip cutting was and
7 he estimated that that harvest method represented
8 approximately three to five per cent.

9 Now, I notice when I went through your
10 witness statement that at page 89 you have some
11 statistics which perhaps might be a little bit more
12 accurate than Mr. Oldford's best attempt at
13 approximating the percentage.

14 Could you advise whether there in fact is
15 a statistic on page 89 and, if so, what it is?

16 A. Yes, there is a statistic on page 89
17 and I will have it in just a moment. Of the total
18 Crown land harvested in 1986-87, strip cutting
19 accounted for one per cent of the total harvest.

20 Q. Thank you. Now, at page 14631 - and
21 you don't need this section, Mr. Hynard, I am just
22 indicating that for the record - at page 14631 of the
23 transcript Ms. Swenarchuk was cross-examining you in
24 relation to strip cuts. She referred you to page 105
25 of the witness statement where the middle paragraph

1 reads as follows, and I'm quoting it:

2 "Strip clearcuts require large stands in
3 a mature condition to be practicable. It
4 is not possible to effect a harvest by
5 strip cutting on rugged, broken terrain
6 or in small stands."

7 She then asked you, and I'm quoting both
8 the question and your answer. She asked:

9 "Why couldn't you use them on rugged,
10 broken terrain or in small stands?
11 Basically we are talking here about
12 smaller clearcuts. Why is that a
13 problem?"

14 Your answer was:

15 "No...here we're talking about a rigid
16 laid out pattern of clearcutting.
17 We are talking about a strip cut clear
18 with straight boundaries and square
19 corners and, in order to do that, you
20 have got to have a stand that is large
21 enough to accommodate all those various
22 strips, you have got to have it on
23 terrain that will..."

24 A. Allow.

25 Q. I think:

1 "...allow the harvesting to occur down
2 those strips, the skidding to occur down
3 those strips."

4 Now, I am wondering, Mr. Hynard, could
5 you describe, perhaps with the use of a flip chart if
6 you think that would be helpful, what you mean when you
7 say that you need terrain that will allow the
8 harvesting and the skidding to occur down those strips
9 and the effect that not being able to do that would
10 have on your ability to use this method of natural
11 regeneration?

12 A. Yes. I don't know if it's necessary
13 to use the flip chart.

14 Q. All right.

15 A. In laying out strip cuts the roading
16 is very, very important. The roads are spaced
17 uniformly so that they -- each strip is accessed by a
18 road, at least by a tertiary road.

19 If that's not possible, if because the
20 terrain is very rugged and broken the roads can be laid
21 out only where the terrain permits, then it will not be
22 possible to provide skidder access from the strips to
23 the road and it would necessitate skidding that timber
24 all through the uncut strips, sort of in a
25 helter-skelter fashion for...

1 It just wouldn't be possible or
2 practicable for two reasons. One is that it would
3 complicate the skidding pattern necessitating skidding
4 through those uncut strips when the most efficient
5 method would be to simply skid through the cut strip.
6 It would complicate it in the second cut also, it would
7 then necessitate skidding all through the regenerated
8 strips for the same reason. Therefore, it's really
9 only practicable to lay out strip cuts where the
10 terrain is relatively flat and uniform.

11 Q. Thank you. When being cross-examined
12 by Ms. Swenarchuk about strip cutting, Mr. Oldford made
13 the comment that strip cutting is limited to a small
14 range of sites.

15 Can you advise me, Mr. Hynard: Are there
16 factors other than the ability to lay out a rigid
17 pattern that results in the strip cutting being limited
18 to a small range of sites?

19 A. Oh, yes, yes. With respect to that
20 first question, I was really talking only about the
21 practicabilities of doing it, of carrying out the job,
22 but there are other limitations also.

23 For example, in the case of black spruce
24 strip cutting for the natural regeneration of black
25 spruce, it's necessary to have a suitable seedbed.

1 That would be a limiting factor right there.

2 I don't have another one springing to
3 mind right now but certainly that would limit the
4 application of strip clear cutting for black spruce as
5 the availability of seedbed and other site conditions.

6 It's a natural regeneration method, it
7 would work well only where there was relative freedom
8 from competition. Natural black spruce are relatively
9 slow starting trees and it would not function well, as
10 you will hear more about in Panel 11, on a competition
11 prone site. So there is a third reason for it being
12 limited.

13 Q. Thank you. A few questions for you,
14 Mr. Greenwood. Ms. Swenarchuk asked you a number of
15 questions about the Shurman and Mackintosh article.
16 She reviewed a number of the comments in the report and
17 as she went through the report and dealt with certain
18 comments she asked you whether you agreed with them and
19 you said yes, you agreed.

20 You indicated that the study was correct
21 at the time but that there had been a dramatic change
22 since 1983/84 and, in that regard, you made reference
23 to the changing harvest practices which led to the HARO
24 or the method which is accounted for by the reference
25 to HARO and the advent of wide tires. You also

1 indicated that the silvicultural groundrules were
2 incorporating the above two developments.

3 Do you recall that evidence?

4 MR. GREENWOOD: A. Yes, I do.

5 Q. Now, just before you gave that
6 evidence about whether the observations described in
7 the article were current, the following questions and
8 answers are noted in the transcript:

9 "Q. Now, I take it this is a 1987 paper;
10 isn't it?

11 A. This is a 1987 paper.

12 Q. For cutting dated from 1982 to 1984,
13 as I recall?

14 A. '83 to '84, yes.

15 Q. Okay. So they consider that the
16 question of site productivity from damage
17 is still open and presumably requires
18 research. Do you agree that that
19 question is still open?

20 A. The productivity following severe
21 disturbance from narrow tires in summer,
22 yes, from severe rutting."

23 Now, in giving that answer, were you
24 indicating that the question was still open in 1983/84
25 which were the dates of the cuts being considered;

1 1987, the date of the paper; or 1989, the date on which
2 you gave your evidence?

3 A. Could you repeat the last question
4 and answer that you read to me, please.

5 Q. All right. And I don't have the
6 actual article and if you wanted to look at that we
7 could do that. The question was:

8 "Okay. So they..."

9 Referring to Mackintosh -- Shurman and Mackintosh
10 "...consider that the question of site
11 productivity from damage is still open
12 and presumably requires research. Do you
13 agree that that question is still open?

14 A. The productivity following severe
15 disturbance from narrow tires in summer,
16 yes, from severe rutting."

17 Now, my question was: Were you
18 indicating that that question about productivity
19 following severe disturbance from narrow tires in
20 summer from severe rutting was a question which was
21 open in 1983 and '84 which was the time of the cuts
22 that were being described by Shurman and Mackintosh;
23 1987, the date of the paper; or 1989, which is the date
24 you gave your evidence?

25 A. I think the question of whether

1 severe rutting reduces productivity and whether they
2 actually showed that in '83 when they measured it or
3 when they reported it in '87 is still open.

4 Their studies -- the studies have not
5 quantitatively shown that reduction in productivity
6 took place. However, having said that, I think that we
7 believe that severe rutting due to narrow -- use of
8 narrow tires in summer will reduce productivity. If
9 for no other reason, that the renewal period is greatly
10 extended as a result of that activity.

11 Q. And that potential environmental
12 effect, rutting as a result of using narrow tires in
13 those summer conditions, is a matter which you have
14 indicated in your evidence has been addressed; is that
15 correct?

16 A. That's correct.

17 Q. And has been addressed in what
18 manner?

19 A. The two ways in which I spoke to that
20 was that the study took place in 1983/84. The forest
21 eco-system classification for the Clay Belt was not
22 released until 1983, that was the first step which took
23 place in identifying sites which had the potential for
24 severe rutting.

25 During the period '83 to '85, there was a

1 lot of training took place with the forest eco-system
2 classification which allowed the field foresters to
3 utilize it, to map areas, to predetermine areas which
4 then would possibly be susceptible to this condition.

5 The second was the widespread use of high
6 flotation tires, and it was the advent of both of those
7 which took place following the initial work on this
8 study that changed the situation.

9 Q. Thank you. Staying with you for
10 another question, Mr. Greenwood. Ms. Swenarchuk asked
11 you some questions about micro-climate. She referred
12 you to paragraph 31 of the witness statement that
13 indicated in part:

14 "The changes in micro-climate can include
15 those both critical for successful
16 re-establishment of the forest and those
17 detrimental to regeneration."

18 She then asked you, and I'm quoting her:
19 "Do you in any way relate micro-climate
20 changes to sizes of clearcut? For
21 example, would you agree that on open,
22 continuous large area of clearcut the
23 micro-climate may be affected for a long
24 period of time. Do you agree with that?"

25 Your answer was:

1 "Oh, I think, yes. In an open clearcut,
2 regardless of the size, the micro-climate
3 would be affected -- well, define long
4 period of time? It would certainly be
5 affected for ten years."

6 Do you recall that exchange?

7 A. Yes, I do.

8 Q. Could you advise whether changes in
9 micro-climate both critical for successful
10 re-establishment of the forest and those detrimental to
11 regeneration, can occur because a clearcut is small as
12 opposed to being an open, continuous large area
13 clearcut?

14 A. Very much so.

15 Q. In what way?

16 A. Well in terms of it being necessary,
17 the species that we are referring to in the boreal
18 forest which silviculturally require disturbance to
19 renew, the purpose of that disturbance is in fact -- or
20 the advantage of that disturbance is to change
21 micro-climate in terms of the factors I listed in my
22 evidence-in-chief, light temperature.

23 If in fact the clearcut is too small and
24 the optimum or the appropriate changes in light and
25 temperature don't take place, this could very much be

1 detrimental to the species that require full light and
2 warmer temperatures.

3 Q. And can you give me any examples as
4 to what might occur; I mean, how that effect might
5 manifest itself?

6 A. The best way I think is to go to an
7 example. If we take a species like jack pine which
8 requires full light in order to renew, if a clearcut,
9 no matter what size, is created and full light is given
10 that species will be able to renew or at least one of
11 the factors of micro-climate will be in place allowing
12 that species to renew.

13 If a clearcut was so small, for instance
14 a strip, where full light conditions were not created
15 or shading took place from the sides of the strip the
16 conditions of micro-climate necessary for that species
17 would not be there and, therefore, the species would
18 have difficulty renewing.

19 Q. Thank you. Mr. Oldford, under
20 cross-examination, Ms. Swenarchuk established that a
21 number of equipment operators in the field are
22 sub-contractors.

23 She also asked you whether most of those
24 equipment operators worked at piecework as opposed to
25 an hourly rate and you indicated that the practice

1 varies and that in fact some are paid that way. Do you
2 recall giving that evidence?

3 MR. OLDFORD: A. Yes.

4 Q. You also agreed with her statement
5 that those who are getting paid by piecework want to
6 maximize their take - she used the word take all
7 right - you agreed with her statement that those who
8 are getting paid by piecework want to maximize their
9 take.

10 Now, Mr. Oldford, if an operator wanted
11 to maximize his take and was operating in an area
12 susceptible to rutting or compaction, could that
13 susceptibility affect his productivity?

14 A. Yes, very much so.

15 Q. How?

16 A. Well, if the machine is bogged down
17 or working in difficult terrain or creating ruts then
18 the machine is not performing effectively and
19 productively and the operator would be inclined to move
20 to a site where -- if weather conditions, for instance,
21 were causing that problem, the operator himself would
22 be motivated to move to a site where he could work more
23 effectively.

24 Q. And if he wanted to work on a site
25 which was susceptible to rutting, are there any means

1 by which he could go about avoiding getting stuck so as
2 to avoid losing productivity?

3 A. Yes. The operators are generally
4 very knowledgeable about that. They would modify the
5 equipment and they would choose their means of
6 operating on that site in such a way as to avoid those
7 problems.

8 Q. Thank you.

9 A. And those problems, sir, would be
10 identified by field foremen quite quickly and, in the
11 event that the operator hadn't corrected it on his own
12 initiative, it would be brought to his attention very
13 shortly.

14 Q. Thank you.

15 MR. FREIDIN: One moment, Mr. Chairman.

16 Q. Dr. Euler, Ms. Swenarchuk asked you
17 whether the featured species approach is a widely
18 accepted position and you responded that you would not
19 characterize it as widely used.

20 In your evidence you also indicated that
21 if featured species approach in Ontario -- that if the
22 featured species approach in Ontario is one management
23 tool and that doing index counts of various species is
24 another management tool used to measure the attainment
25 of the objective of maintaining viable populations. Do

1 you recall giving that evidence?

2 DR. EULER: A. Yes.

3 Q. To what extent to other jurisdictions
4 rely on index counts?

5 A. Well, it's a very common technique in
6 managing forest wildlife systems. I think every single
7 jurisdiction would use them in one form or another.
8 Everyone that I know of would use them in one form or
9 another.

10 Q. And for what purpose are index counts
11 conducted by other jurisdictions?

12 A. Well, just to keep track of what's
13 happening to the population because most of these
14 populations -- measuring the actual population itself,
15 the number of animals that are out there is nearly
16 impossible, the cost would just be astronomical, it
17 would be measured in millions of dollars and is totally
18 impractical.

19 And so rather than try and count
20 everything, you count indexes to the population. So if
21 the index goes up you have a very good indication that
22 the population has gone up; if the index has gone down,
23 then that's every reason to think the population itself
24 has gone down.

25 Q. Thank you. Now, commencing on page

1 14796 of the transcript - and I don't think you will
2 need that, Dr. Euler - Ms. Swenarchuk asked you a
3 number of questions regarding an article by Mr.
4 Thompson in the Forestry Chronicle in which he
5 discussed the use of trapping records as a basis to
6 determine whether species are currently maintained in
7 fairly stable populations. Do you recall discussing
8 that particular matter?

9 A. Yes, I do.

10 Q. Now, you acknowledged that while
11 trapping data provides some indication of populations,
12 but as an indicator of the viability of furbearer
13 populations it is biased particularly because of the
14 variability in trapping effort.

15 A. Yes.

16 Q. In acknowledging that, were you
17 saying that such harvest data was of no use in
18 reflecting population trends?

19 A. No, no, not saying it is of no use at
20 all. It's just it has to be interpreted with care, you
21 have to identify what the harvest effort was and if you
22 can identify the harvest effort, if you know how many
23 trappers were there and you know on average how many
24 times per week they were out, if you know those things,
25 then the trapping records become more valuable.

1 It's just -- it's a statistic that has to
2 be used with extreme care and caution, has to be
3 interpreted properly by people who understand the
4 dynamics of the system and I'm just a little concerned
5 about using it in circumstances other than with the
6 utmost care.

7 Q. Now, dealing still with index counts
8 but another particular matter -- another matter. In
9 response to a question from Ms. Swenarchuk about the
10 Long Point Bird Observatory--

11 A. Yes.

12 Q. --you indicated that the Observatory
13 had information about the populations of about ten
14 species. What sort of information does the Observatory
15 have about the ten species that you were referring to?

16 A. Well, if I said population that was
17 an error. I don't -- I may have misstated that, but
18 they would have index counts to these species.

19 The Long Point Bird Observatory is
20 located on the strip of land that we call Long Point.
21 It juts out into Lake Erie. The reason it's valuable
22 is, as birds are migrating north this is the first
23 strip of land they see and the Long Point Bird
24 Observatory has been there for a number of years. They
25 have volunteers who catch birds and band them on the

1 typ and they count them as well.

2 So during May of every year there are
3 people there counting the number of birds returning to
4 Ontario.

5 So from that information, if you are
6 interested in warblers for example, if you know that
7 during the month of May you banded a thousand warblers
8 in one year and the next year you didn't band more than
9 ten, then you know something is going on. You don't
10 know what is going on and you need more than one year
11 to confirm it, but you know something is going on to
12 the warbler population.

13 At Long Point they have been monitoring
14 birds for a number of years and there is about 10 or 12
15 species that they have long-term index records for and
16 that is what I was referring to.

17 Q. Now, when you have 10 or 12 species
18 of birds that you have these long-term records, are
19 those the kind of records that are used to develop
20 population trends?

21 A. Oh, yes. Yes, that's the idea. Even
22 though you haven't actually counted the population,
23 because you have recorded these data in the same way
24 every year, year after year, it's a clear index to the
25 population.

1 Q. Now, if you get those population
2 trends, I take it you would have to analyse the data
3 that you had collected by making all the observations?

4 A. That's correct.

5 Q. Do you know whether the Observatory
6 has unanalysed information for any species over and
7 above the 10 or 12 that you have referred to?

8 A. Yes, there are some unanalysed data
9 there.

10 Q. Are you aware of approximately how
11 many?

12 A. No, I am not, Mr. Freidin. That is
13 one of the things that we are working on very hard to
14 try to get them some money so that we can get all of
15 the data analysed. And there is a certain amount of --
16 we're trying to put money into that right now.

17 Q. You referred in your evidence to a
18 Dr. Hustle doing some work. Is he one of, or is he a
19 person who is involved in analysing collected but
20 unanalysed data?

21 A. Yes, he is. His name is Dr. David
22 Hustle and for many years he was the Executive Director
23 of the Long Point Bird Observatory. He has since left
24 that job and he is now an employee of the Ministry of
25 Natural Research -- Natural Resources in our Research

1 Section at Maple and he's the custodian of much of this
2 data and he is engaged in a major long-term effort to
3 analyse the data and allow then it to be used in our
4 management programs.

5 Q. And now that your mind has shifted
6 over to Dr. Hustle's work does that assist you in any
7 way in terms of indicating how many birds may be the
8 subject of having data about them analysed?

9 A. Well, his current project I think --
10 I think there are about 8 or 9 species in his current
11 project, but I'm sorry, I just don't remember the
12 numbers of those other birds.

13 Q. That's fine.

14 A. I know there is a big bank of data
15 there to be analysed, we are working on it as hard as
16 we can and as fast as we can. It's a very
17 sophisticated analysis required to do this properly.
18 It makes extensive use of computers and advanced
19 mathematical equations. It's quite a big task.

20 Q. Thank you. Staying with you, Dr.
21 Euler. During cross-examination you agreed that the
22 Ministry of Natural Resources does not have a policy
23 regarding the protection of invertebrates. Can you
24 advise me: Does the Ministry have a policy in relation
25 to endangered species?

1 A. Yes, we do have a policy for
2 endangered species.

3 Q. And are there any invertebrates on
4 the endangered species list which occur in the area of
5 the undertaking?

6 A. Yes, there's at least one. The West
7 Virginia white butterfly does occur in at least a
8 portion of the area of the undertaking and that is an
9 insect.

10 Q. And your wildlife information policy
11 which we have dealt with at some length in fact speaks
12 to endangered species?

13 A. Yes.

14 Q. Or species on the endangered species
15 list?

16 A. Yes, it does.

17 Q. Thank you. Dr. Euler, you were
18 referred to page 539 of the witness statement by Ms.
19 Swenarchuk and that's the page where you set out the 11
20 variables to consider when balancing the need of timber
21 and wildlife.

22 A. With respect to clearcut size?

23 Q. Well, perhaps you should take a look
24 at page 539.

25 A. Yeah.

1 Q. I believe clearcut size may have been
2 one of the factors.

3 A. Oh yes, I see. I have it here.
4 Mm-hmm.

5 Q. All right.

6 A. Yes.

7 Q. And am I describing it accurately
8 when I say it sets out the 11 variables to consider
9 when balancing the need of timber and wildlife?

10 A. Yes, indeed.

11 Q. Now, she referred you to Items 1 to
12 4.

13 A. Yes.

14 Q. Perhaps you could just read what
15 those four are.

16 A. Size and configuration of the cut,
17 physiographic condition, plant and wildlife communities
18 present before the cut, composition and age of plant
19 communities in the vicinity of the cut.

20 Q. Okay. Now, after referring you to
21 those four she asked you whether you agreed that
22 currently the Ministry of Natural Resources' policy
23 does not require all of this information prior to
24 making a decision about the cut, and you agreed that
25 her comment was correct.

1 My question for you, Dr. Euler is:

2 Although there is no present policy requirement that
3 all of this information be considered prior to making a
4 decision about the cut, in your view, is this
5 information considered?

6 A. Oh yes. I think everybody, every
7 biologist, every forester engaged in this process of
8 trying to manage the forest would be working on these
9 conditions absolutely and would have these in mind,
10 would think about them. Now, some maybe write them
11 down a little differently than others, but they are all
12 an integral part of the process of deciding what to do.

13 Q. Okay, thank you. You stated in your
14 cross-examination that you don't have as much long-term
15 population trend data as you would like to have. And
16 could you advise: Is the Ministry doing anything about
17 that situation?

18 A. Well, yes. As I referred to earlier
19 with the monitoring studies of Long Point, there's a
20 major effort underway there to bring our data up to
21 where we would like it to be and then, more recently,
22 we have initiated a new program to take more specific
23 steps beyond the ones done at Long Point and in our
24 normal programs to increase our database in the area
25 where we feel it has not been as strong as it might

1 have been.

2 Because, for example, in the case of
3 moose, we have a long-term record of moose populations
4 and we have a number of data about deer, but in some of
5 the other species we don't have as much data as we
6 would like. Well, we have initiated a long-term
7 monitoring program where we specifically will collect
8 more information about species that we don't have data
9 and this is underway right now, we are setting up
10 stations across the province and working hard on that
11 project right now.

12 Q. Is that the population monitoring
13 effort that you have referred to throughout your
14 evidence?

15 A. Yes. We often call that population
16 monitoring.

17 Q. Okay.

18 MR. FREIDIN: Mr. Chairman, this might be
19 an appropriate time for a break.

20 THE CHAIRMAN: Very well. We will break
21 for 20 minutes.

22 Mr. Freidin, can you indicate whereabouts
23 you are in your re-examination?

24 MR. FREIDIN: I think I am going to be
25 another 45 minutes to an hour, I think. I will be,

1 let's say an hour.

2 THE CHAIRMAN: And then you will be
3 completed?

4 MR. FREIDIN: Yes.

5 THE CHAIRMAN: And then are we going to
6 be in a position to start Panel 11 this afternoon?

7 MR. FREIDIN: I was going to ask for your
8 direction in that regard. If we do start this
9 afternoon, I would like - depending on what time I
10 finish - have a break to set up the room, but I have
11 got to get some paper together and do a few
12 administrative matters before I can start.

13 THE CHAIRMAN: Okay.

14 MR. FREIDIN: But subject to your
15 direction, we'd be playing it safe, if I finish in the
16 hour, and you wish to proceed this afternoon, I think we
17 can put some time in.

18 THE CHAIRMAN: Well, I think in view of
19 the amount of time that we are going to have to spend
20 on the rest of the evidence, not only including the
21 next panel but the other panels, I think we should
22 avoid trying to waste the afternoon completely, so I
23 think we should start this afternoon with 11.

24 MR. FREIDIN: That's fine.

25 THE CHAIRMAN: But we'll give you

1 sufficient time to set up, et cetera.

2 MR. FREIDIN: Okay, thank you.

3 THE CHAIRMAN: We will be back in 20
4 minutes.

5 ---Recess taken at 10:30 a.m.

6 ---On resuming at 11:10 a.m.

7 THE CHAIRMAN: Thank you. Be seated,
8 please.

9 MR. HUNTER: Mr. Chairman, I have asked
10 Mr. Freidin's indulgence, if I could just address the
11 Board on the question of timing with respect to the
12 motion on Monday.

13 As you are aware, the only flight out is
14 6:30 on Sunday night. I have talked to my colleagues.
15 I appreciate everyone's under some constraint, but
16 would it be possible to commence Monday at 12:00 and
17 proceed into the evening as distinct from coming up on
18 the 6:30 flight?

19 THE CHAIRMAN: Well, we've just been
20 discussing that ourselves. Our concern, Mr. Hunter, is
21 the fact that we feel that based on some of the
22 submissions made to date in connection with this motion
23 that this is going to be a fairly lengthy motion by the
24 time all parties address the Board and make their
25 submissions.

1 There's five major submissions that are
2 in, some of them are fairly voluminous in themselves.
3 In addition, there may be other parties, we understand
4 from contacts made to the Board through the registrar
5 Mr. Mander, that there is some interest out there by
6 even other parties in this matter and we only have the
7 three days next week, and it was our feeling that it's
8 probably one of the few times that we are asking the
9 indulgence of the parties to impinge on the weekend to
10 some extent, but it would be better really if we
11 started at 9:00 in the morning.

12 I think you are going to find that we are
13 going to be spending a very full day and it may be
14 necessary to extend into the late afternoon or early
15 evening as it is. We also have, as you are aware, not
16 just that motion to dispose of but we have the scoping
17 process to deal with and we also have two or three
18 other matters that we have deferred until the 8th.

19 And so we don't want to lose any time, if
20 we can possibly help it, in terms of the evidence
21 coming in with Panel 11. We are not going to get much
22 in we fear in any event.

23 MR. HUNTER: Thank you, Mr. Chairman.

24 THE CHAIRMAN: Mr. Freidin?

25 MR. FREIDIN: Q. Well, Dr. Euler, we

1 might as well just continue.

2 DR. EULER: A. Why not, since we are
3 having such a good time.

4 Q. During cross-examination by Ms.
5 Swenarchuk you were asked a number of questions
6 regarding old growth forests.

7 A. Yes.

8 Q. Now, to put the question that I want
9 to ask you in context I am going to have to refer to a
10 fair bit of the examination. So if you would just sort
11 of listen as intently as you can.

12 You indicated that the Ministry had not
13 particularly surveyed spacially for these areas but
14 that the Forest Resources Inventory would have data on
15 that. You were then asked the following questions and
16 you gave the following answers:

17 "Q. Do you think that some process of
18 identification of these areas should be
19 undertaken?

20 A. I think that would be very helpful,
21 yes.

22 Q. And that then some segments of that
23 old growth forest should have
24 protection--

25 A. Yes.

1 Q. --from cutting?

2 A. Yes. "

3 And then you went on and you made a
4 comment that the Ministry does to that to some extent
5 in provincial parks. I believe the evidence has been
6 led in other panels that by and large there is no
7 timber harvesting taking place in provincial parks,
8 with a couple of exceptions; is that correct?

9 A. Yes, that's correct.

10 Q. Now, in response to a question from
11 the Chairman you indicated that there is a fairly
12 substantial amount of land that is in this mature to
13 old growth segment just because the way cutting has
14 occurred. And you made reference to the fact that
15 there's only cutting in a percentage of the total
16 forest. You referred to Mr. Greenwood's evidence that
17 there -- and I'm quoting you:

18 "There will be substantial areas of older
19 forest for some time in the future just
20 because there is no way that all of that
21 forest can be cut."

22 Do you recall all that so far?

23 A. Yes.

24 Q. Now, you were then asked the
25 following questions and gave the following answers:

1 "Q. Let me clarify your position then.
2 Are you satisfied with that in itself, or
3 do you think that there should be
4 initiatives taken to ensure that some old
5 growth remains?

6 A. I think we should take initiatives to
7 ensure that it remains.

8 Q. Is anything planned in this area in
9 the Ministry?

10 A. Well, we are certainly planning to
11 monitor those species that are tied into
12 this older forest and that will be the
13 first warning signals of a problem. We
14 will start a monitoring program right now
15 when there isn't a problem and continue
16 that monitoring program so that when a
17 problem begins to occur we can identify
18 it right away."

19 My question for you, Dr. Euler is: Can
20 you comment on the adequacy of that initiative; that is
21 the monitoring, to protect species which inhabit mature
22 and overmature forests?

23 A. Yes. At the moment our best evidence
24 would suggest that there are no substantial problems of
25 these species that occupy older forests. There is no

1 indication that these species are in decline as a
2 result of forest management activities, with the
3 possible exception of this red-shouldered hawk that we
4 have talked about at length.

5 We also know from the structure of the
6 forest that is out there that we are going to have this
7 older forest for some time in the future, it's not
8 going to simply disappear in the next year, it just
9 virtually cannot because it would be physically
10 impossible for that to happen. So we do have a period
11 of time to begin our process of monitoring these
12 species that might be a problem; we don't know that
13 they will be, they might be a problem.

14 So we are undertaking now the beginnings
15 of a comprehensive monitoring program and I think this
16 program will be very adequate because across northern
17 Ontario we are establishing plots and points that we
18 can measure and keep track of these potential problems.
19 Because we have some time before the problem will
20 possibly grow, we have plenty of time to make adequate
21 arrangements if it looks as though a problem is
22 occurring.

23 I think it's a very adequate program and
24 one that will continue and be very useful.

25 Q. Now, why is that initiative -- are

1 you indicating that that initiative standing on its own
2 is adequate at this time?

3 A. Yes, I believe it is because we are
4 beginning a comprehensive monitoring program that will
5 carry on for a number of years, it will give us the
6 baseline data that we need. You will remember in some
7 of these graphs and charts I talked about how important
8 it was to have baseline data collected over years. We
9 have some of that now that we are analysing, we are
10 going to collect more, because we don't want to see a
11 problem develop in future.

12 THE CHAIRMAN: Dr. Euler, you can't
13 really comment with any degree of absolute confidence
14 at this point in time on the effectiveness of the
15 proposed monitoring program since you haven't really
16 had the experience of that program being in effect.

17 I mean, you can give it your best guess
18 as to whether or not it will be effective, but you
19 really don't know in fact whether it will be effective
20 because you have no sort of track record in terms of
21 the actual monitoring program that you are going to be
22 instituting?

23 DR. EULER: Mm-hmm. Well, I guess I
24 feel -- my personal feeling is one of confidence in
25 that I know the science is there, I know the tools are

1 there, we have a commitment to funding and as long as
2 that funding commitment stays there, I guess I'm
3 projecting a lot of confidence about this in the
4 future.

5 Now -- and you are right Mr. Chairman,
6 since we haven't actually gone through it we can't say
7 that, but my feeling is one of optimism and confidence.

8 MR. FREIDIN: Q. Mr. Clark, during Mr.
9 Edwards' cross-examination on the Tourism Guidelines,
10 do you recall him asking where he could find a
11 guarantee in the 20-year plan that timber managers were
12 going to take the concerns of tourist operators into
13 account?

14 MR. CLARK: A. I think I do recall that
15 section, yes.

16 Q. Okay. Can you advise me: Is the
17 20-year plan and the five-year plan separate documents?

18 A. No.

19 Q. Are they in one document?

20 A. Yes.

21 Q. And what is that document called?

22 A. The Timber Management Plan.

23 Q. He referred you to page 11 of the
24 Tourism Guidelines and asked you whether you could
25 agree that there was no reference to tourism until the

1 five-year plan and you responded by referring to page
2 132 of the Environmental Assessment Document which
3 deals with the identification of preliminary areas of
4 concern.

5 Now, I would like you to turn to that
6 page, that is 132 of Exhibit 4.

7 A. I've got that.

8 Q. Now, you quoted lines 26 to 34 on
9 page 132. Perhaps we just should read that:

10 "Preliminary areas of concern are
11 identified within either of the entire
12 areas eligible for operations during the
13 20-year period of the timber management
14 plan or the projected operating area for
15 the 20-year period using the inventory
16 information assembled analysed and
17 summarized in the form of a values map in
18 Step 1 of the planning process. As part
19 of the identification of preliminary
20 areas of concern an accompanying
21 description of the resource features,
22 land uses or values which require
23 protection in each area is also
24 produced."

25 Does the paragraph which follows that

1 deal with the concern that was raised by Mr. Edwards?

2 A. This is the paragraph starting at
3 line 36?

4 Q. Yes.

5 A. I would just like to read through it,
6 if I could.

7 Q. Okay.

8 A. I believe it does.

9 Q. Could you read that into the record,
10 please?

11 A. The section reads:

12 "Preliminary areas of concern may also be
13 identified in other parts of the
14 management unit where new primary access
15 roads are required to provide access to
16 either of:

17 1) the entire area eligible for operation
18 during the 20-year period of the timber
19 management plan; or,
20 2) the projected operating area for the
21 20-year period."

22 Q. Can you advise me whether the
23 paragraph immediately -- not following that but next
24 two paragraphs down, whether that paragraph also
25 identifies the specific concern raised by Mr. Edwards?

1 A. Yes, it does.

2 Q. Can we read that one together?

3 A. It read as follows:

4 "The identification of preliminary areas
5 of concern serves as the initial
6 indication that comprehensive planning of
7 timber management operations in those
8 areas will be required, if and when that
9 land area is selected for operations
10 during the five-year term. Perhaps most
11 importantly, however, the identification
12 of preliminary areas of concern serves as
13 a major contribution to the determination
14 of the general location of new primary
15 access roads which are required for the
16 management unit."

17 Q. Thank you. Now, can you advise: Is
18 that portion of the plan which addresses the 20-year
19 period, including identification and discussion of
20 preliminary areas of concern, subject to the formal
21 timber management plan and review and approval process?

22 A. Yes, it is.

23 Q. Can you advise whether the material
24 or documentation regarding preliminary areas of concern
25 and preliminary road planning is available at the

1 public information centre?

2 A. Yes, it is.

3 Q. Can you advise: If a member of the
4 public, including Mr. Edwards or his client, believes
5 that any portion of the plan which deals with the
6 20-year period is unacceptable, can they comment either
7 before, during or after the public information centre?

8 A. Yes, they can.

9 Q. Does the timber management planning
10 process provide for the recording of any such views or
11 comments?

12 A. Yes, it does.

13 Q. Where?

14 A. Well, it is certainly included as
15 part of the supplementary documentation. I'm not sure
16 if you want me to be more specific here.

17 Q. If you can be more specific that's
18 fine, but...

19 A. If you could just give me a minute I
20 can --

21 Q. Well, perhaps let me ask this you:
22 Will the specifics of that be dealt with in Panel 15?

23 A. Yes, it will.

24 Q. Well then, all right, let's leave it
25 to Panel 15.

1 Now, I am staying with you for a moment
2 here, Mr. Clark. Now, in his questioning Mr. Edwards
3 took you through certain portions of Exhibit 379 which
4 are the Tourism Guidelines, and when he was doing that
5 he stressed that pages 45 to 55 were, and I'm quoting
6 him now:

7 "Filled with examples where cutting to
8 the shoreline was an accepted practice."

9 And he referred specifically to pages 48
10 to 51. Do you recall him dealing with that particular
11 subject matter in that fashion?

12 A. Yes, I do.

13 Q. Now, is there anything in this
14 section, which is Section 4.2 which commences on page
15 45 - that's the section in which the references were
16 made by Mr. Edwards - is there anything in this section
17 on cutting patterns which indicates why the examples
18 show cutting to the shoreline?

19 And Mr. Clark --

20 MR. FREIDIN: And Mr. Chairman, with your
21 permission, I would like to direct the witness to a
22 specific paragraph so we don't have to hunt through it.

23 THE CHAIRMAN: Very well.

24 MR. FREIDIN: Q. Can you refer to the
25 second paragraph on page 45.

1 MR. CLARK: A. This is page 45, second
2 paragraph under 4.2, cutting patterns?

3 Q. Right. And does that give us any
4 indication as to why the examples which follow have
5 cutting down to the shoreline?

6 A. Well, I will simply read the
7 paragraph. It reads:

8 "The application of the techniques
9 presented here to a given area of concern
10 assumes that a reserve will not be
11 necessary and that a normal harvest will
12 not provide adequate protection."

13 Q. So the examples then are a situation
14 where the assumption made before they even got into
15 those examples was one where a reserve would not be
16 necessary?

17 A. That's correct.

18 Q. Mr. Hynard, during cross-examination
19 by Mr. Edwards he asked whether there was a minimum
20 amount of information to conduct the timber management
21 planning process.

22 In discussing the facts that on forest
23 management areas the company has the responsibility to
24 write the plan, you indicated that the Ministry
25 approves the plan but does not tell the company what

1 information they should collect. You indicated that
2 the Ministry is interested in the product.

3 Do you recall giving that evidence?

4 MR. HYNARD: A. I do.

5 Q. In that context, what is the product
6 that you were referring to?

7 A. The timber management plan.

8 Q. Can you advise whether the timber
9 management planning manual has certain requirements for
10 the type of subject matters about which information
11 must be reported and the format of that report?

12 A. Oh, absolutely. All of those tables
13 that are contained within the timber management
14 planning manual prescribe exactly how that will be
15 done.

16 Q. And specifies the type of subject
17 matters that has to be reported in those tables?

18 A. Exactly.

19 Q. And those tables and the requirements
20 will be the subject of further evidence, I understand,
21 in Panel 15?

22 A. That's right.

23 Q. Thank you. Another question for you,
24 Mr. Hynard. Mr. Edwards also raised some question
25 regarding the qualification of company foresters or the

1 extent to which the Board should feel comfortable
2 relying on the company foresters as much as the
3 Ministry foresters. Do you recall that line of
4 questioning?

5 A. Yes, I do.

6 Q. Now, you responded by indicating that
7 you had worked with forest management agreement holders
8 and that as a result you believe that the caliber of
9 the company forestres and the Ministry foresters was
10 equal. Is that your evidence?

11 A. Yes, I said that and I believe that
12 to be true.

13 Q. What experience were you referring to
14 when you indicated that you had worked with FMAs?

15 A. I am referring to the time that I
16 spent as the acting FMA coordinator.

17 Q. And during what period of time did
18 you act as the FMA coordinator?

19 A. For a period of about 15 months
20 during 1986 and '87.

21 Q. Could you very generally describe the
22 responsibilities of the FMA coordinator during that
23 time?

24 A. Yes. It was essentially to -- well,
25 to coordinate the FMA program, both the negotiations of

1 new FMAs, the coordination of the fifth year FMA
2 reviews on agreements that were now up for review,
3 related to certain budgeting aspects for the FMA
4 program also.

5 Q. And in that position would that cause
6 you to be in the field and to be in contact with
7 company foresters?

8 A. Oh, yes. I was in contact with
9 company foresters frequently, particularly in the
10 negotiations for new FMAs and I was in the field on a
11 number of occasions, particularly relating to the fifth
12 year reviews.

13 Q. Thank you. Did you actually sort of
14 sit on one of those, or were a member of one of the
15 review teams?

16 A. I was there -- I think the transcript
17 refers to me as their gopher. I was not an actual
18 member, no.

19 Q. Thank you. Another question for you,
20 Mr. Hynard. In the cross-examination by Mr. Hanna
21 regarding silvicultural groundrules, Mr. Hanna asked
22 whether there is a possibility of multiple alternative
23 methods in silvicultural groundrules.

24 You responded that there may be options
25 and that the reason is that there may be factors which

1 won't be apparent until after harvest occurs. You also
2 indicated that when you put the options in and the plan
3 is approved, all the options are also approved. Is
4 that correct?

5 A. That's correct.

6 Q. Are options always included in the
7 silvicultural groundrules or are there some situations
8 where a single prescription is written?

9 A. Oh, it is quite common that there
10 would be a single prescription.

11 Q. Could you explain then, perhaps by
12 way of example, why in some situations you cannot
13 specify one prescription only?

14 A. Yes, I can do that. I think probably
15 referring back to that Red Lake plan that we looked at
16 is a good example.

17 There were three options I recall on that
18 Table 4.11.2 that we looked at and the three options
19 depended upon, or at least the choice of the option
20 depended upon, first of all, the presence of advanced
21 reproduction. If there was advanced reproduction, then
22 clearcutting of the area was possible. If there was
23 not sufficient advanced reproduction to restock the
24 stand but there was a suitable seedbed, then strip
25 clearcutting was an option or group seed tree cutting,

1 as I recall.

2 However, if there was neither sufficient
3 advanced reproduction nor a suitable seedbed, then the
4 third option would come into play which was site
5 preparation.

6 And the forester might not be aware of
7 that until the time of the actual operation. I can
8 think of other reasons too; for example, the ability to
9 finance preferred options.

10 Q. Can you give me an example of what an
11 option in a silvicultural groundrule might read like if
12 in fact you had a situation where you were concerned
13 about the financing?

14 A. Yes. Yes, I can. My example would
15 be the poplar working group. The two options would
16 be -- the intended or future working group might be, in
17 the first case, white pine and the silvicultural
18 prescription would be for -- say, for example,
19 clearcutting, site preparation and planting. However,
20 that would only be possible if there was financing
21 available to effect that kind of treatment.

22 A second option might be to keep that
23 stand in the poplar working group and the prescription
24 might be simply to clearcut and allow the stand to
25 regenerate naturally back to poplar again.

1 Both of those options might appear in the
2 silvicultural groundrules for that particular working
3 group and site type. However, a forester would not
4 know until that fiscal year which option he was going
5 to select. He wouldn't know if he was able to spend
6 the money and do option No. 1.

7 Q. And I understand that particular
8 scenario will be addressed in Panel No. 11 and in Panel
9 15?

10 A. I believe so.

11 Q. Okay. Again, another question for
12 you, Mr. Hynard, and I will be asking a follow-up
13 question of Dr. Euler.

14 Now, Mr. Hynard, do you recall the
15 hypothetical that Mr. Hanna was describing to you where
16 weights were assigned to moose and wood; the weight
17 being assigned to the wood being twice as much as that
18 being assigned to the moose?

19 A. I recall.

20 Q. Mr. Hanna asked whether you would
21 agree that individual professional experts,
22 particularly people with local knowledge, would be
23 necessary to determine the weights being assigned -- to
24 determine whether the weights being assigned were
25 accurate.

1 Now, before you answered yes, you
2 qualified your answer by indicating - and I think I
3 have got you down correctly here:

4 "To answer that would be to presume that
5 you could have reasonable rates for
6 purposes which would be useful or
7 reasonable, and I would not accept that."

8 Could you explain why you qualified your
9 answer to that question in that way and the following
10 question related to weighting and rating various
11 factors?

12 A. Would you read me the quote from the
13 transcript again, please?

14 Q. What you said?

15 A. Yes, please. Do you have Mr. Hanna's
16 original question too?

17 Q. I don't have the actual transcript
18 notation, these are my notes, and if you don't
19 recollect the question in that vein, you ask whatever
20 questions you want or deal with it as you feel is
21 appropriate?

22 A. Just go ahead with the response then,
23 I think I will be fine with that.

24 Q. Well, the response is -- all right.
25 Before answering yes you qualified your answer by

1 indicating:

2 "To answer that..."

3 Referring to his question:

4 "...would be to presume that you could
5 have reasonable rates for purposes which
6 would be useful or reasonable and I would
7 not accept that."

8 A. I would like to see the question,
9 please.

10 Q. Perhaps the best thing to do is for
11 me to just skip that and I will see if I can find the
12 actual transcript portion. I couldn't find it last
13 night.

14 A. I recall what I had in my mind was
15 that, at the time that I answered that question I
16 somehow had it in my mind - and that was fairly early
17 in Mr. Hanna's cross-examination - that Mr. Hanna had
18 in mind a weighted/rated computer model that optimized
19 all of these various benefits and that in order to load
20 up this model you would have to weight and rate the
21 moose versus the wood and, of course, this would be
22 very, very site-specific.

23 And his question was: Would you need a
24 local expert in order to do that weighting and rating.
25 And my answer was: Yes, if you are going to try

1 anything like that, of course, you would have to have a
2 local expert.

3 But to answer a simple yes would be to
4 presuppose that I accepted his proposition, or what I
5 understood his proposition to be. And the reason that
6 I didn't want to accept that was that to put into a
7 black box a weighted/rated computerized optimization
8 model that you just feed in the amount of how much wood
9 was there and what kind of moose habitat, it would tell
10 you the answer as to which use was best and how to go
11 about it, to me is not workable and it is not workable
12 because those relationships are not fully understood
13 and fully known, certainly not to the point where you
14 can load them into a computer and rely upon such an
15 answer.

16 And so I rejected that hypothesis for
17 that reason. I would far better -- I would far rather
18 have local experts look at that particular situation
19 and judge it in their minds. And that's why I answered
20 in that fashion.

21 Q. Dr. Euler, do you have any views on
22 this general sort of topic?

23 DR. EULER: A. Well, you see, I -- yes,
24 I do. See, I agree with Mr. Hynard but that doesn't
25 mean that you never use a computer model. You would

1 use it as an aid, as one aid in the things that you
2 have at your fingertips to make the decisions and it is
3 equally as important as the opinions that Mr. Hynard
4 was referring to.

5 So when you sit down to make these kind
6 of decisions, you take all the aids that you can get.
7 Sometimes the computer model is a good aid, sometimes
8 it isn't a good aid, sometimes you need that local
9 opinion because that can be the best, and models have
10 pros and cons and one of the cons is, if they are black
11 box and you don't understand all those relationships,
12 then it may not be as helpful.

13 THE CHAIRMAN: It sounds like the
14 assistance of a local psychiatrist would probably be
15 helpful as well?

16 DR. EULER: He would be much appreciated
17 on some days, yes, sir, Mr. Chairman.

18 MR. HYNARD: And I certainly accept what
19 Dr. Euler has said. I wouldn't want you to infer that
20 I believe that we should not be looking at these tools
21 or using these tools, I think they should be used
22 judiciously.

23 MR. FREIDIN: Thank you.

24 THE CHAIRMAN: Have they been developed
25 to the extent at this point that they would be useful,

1 in your view?

2 DR. EULER: No, not in my view. They are
3 not ready to be used yet. Tremendous potential, but
4 not quite yet.

5 MR. FREIDIN: Q. Okay, Dr. Euler, a few
6 more questions for you. Would you take out Exhibit
7 489, that's the Interim Direction?

8 DR. EULER: A. Yes.

9 Q. And would you turn to the third page?

10 A. Yes.

11 Q. Now, that page reads:

12 "Interim guidance on flexibility is

13 necessary for the following reasons..."

14 And then I will go down to the second bullet point:

15 "To develop greater knowledge through
16 monitoring of the relationship between
17 population levels and habitat change."

18 Now, I want to read to you from the
19 transcript from the cross-examination of Ms. Seaborn.

20 MR. FREIDIN: I do not have the actual
21 transcript page numbers because they weren't available,
22 but if one looks at the transcript, Mr. Chairman, and
23 starts counting at the first page with No. 1, I am
24 reading from page 51 lines 14 to page 52 line 2.

25 Q. And here is what it says, Dr. Euler:

1 "Q. Now, would you agree with me that
2 that sort of a relationship..."

3 We are talking about the relationship between
4 population and habitat:

5 "...could not be effectively monitored by
6 reporting deviations for a two-year
7 period?

8 A. Yes, that is right. I would agree
9 with you."

10 MR. FREIDIN: Mr. Chairman, I forgot, I
11 have actually -- it may be difficult for the witness.
12 I have typed out the questions and answers that I am
13 going to read to him and, if I might, I would like to
14 give that to him.

15 THE CHAIRMAN: Very well.

16 MR. FREIDIN: Q. If I might just start
17 again, there is the question:

18 "Now, would you agree with me that that
19 sort of a relationship could not be
20 effectively monitored by reporting
21 deviations for a two-period year period?

22 A. Yes, that is right. I would agree
23 with you.

24 Q. And would you agree with me that it
25 will make more sense to monitor closely

1 the effectiveness of the guidelines as
2 written because these are the guidelines
3 that have a sound biological basis?

4 A. Yes, I would agree with you and that
5 is exactly -- actually what we are doing,
6 we are initiating quite a major project
7 to do exactly that."

8 Now, my question is in relation to that
9 last question and answer that I read to you.

10 Could you advise: What is the major
11 project that you are referring to that is going to, as
12 you state, monitor closely the effectiveness of the
13 guidelines as written?

14 DR. EULER: A. Okay. Yes, I could. We
15 developed the Timber Management Guidelines for the
16 Provision of Moose Habitat using the very best
17 knowledge that was available, both from the scientific
18 literature based on research and the experience of our
19 staff, and we think that these guidelines are the best
20 available.

21 Now, at the same time we want to do some
22 checking, we want to see what happens in a very
23 rigorous way when these are applied in the real world.
24 And so we have initiated a major project as a result of
25 the ESSA exercise which helped us identify the

1 important questions to ask.

2 And over the next number of years we are
3 going to have some experimental areas where the
4 guidelines are applied and some control areas where
5 they are not applied and we are going to ask some very
6 specific and very detailed questions about exactly what
7 happens in some considerable scientific detail subject
8 to very rigorous examination by proper statistical
9 tools to evaluate the guidelines and how the moose
10 respond to them, the quality of the habitat, how they
11 might be changed if necessary, and so on.

12 And that will be a multi-year project
13 with several scientists involved over probably two or
14 maybe three different areas in Ontario so that we can
15 have a better understanding exactly how the guidelines
16 work, what they do and where, if they need to be
17 improved, they can be improved based on a careful
18 scientific study.

19 THE CHAIRMAN: Is this a part of or in
20 addition to the monitoring program that you are going
21 to be discussing in Panel --

22 DR. EULER: This is in addition to.

23 MR. FREIDIN: The monitoring program in
24 which panel?

25 THE CHAIRMAN: Panel 16.

1 DR. EULER: Oh.

2 MR. FREIDIN: No, in Panel 16 they'll
3 probably answer the question.

4 DR. EULER: I'm sorry, Mr. Chairman, I
5 answered you too quickly. It will be described in 16.

6 MR. FREIDIN: As well, I think the
7 population monitoring program which is something
8 separate.

9 DR. EULER: Right. That's what I thought
10 he was referring to. We've got several monitoring
11 programs going on and it is easy to get a little bit
12 confused. But what we are calling this for just
13 purposes of clarity, we are calling this major project
14 moose effectiveness monitoring, or MEM for short, and
15 just as a handle so we all know what we are talking
16 about.

17 And then we are talking about the other
18 work we are doing, we are just calling that by the two
19 words, population monitoring.

20 MR. FREIDIN: Q. Now, the moose
21 effectiveness monitoring program or project, is that
22 different than the imposition of a requirement for
23 deviation reporting?

24 DR. EULER: A. Oh, yes, that's something
25 totally different.

1 Q. Okay. Now, I want to go back to the
2 first question, if I might, Dr. Euler and the question
3 was:

4 "Now, would you agree with me that that
5 sort of a relationship..."

6 Population/habitat relationship:

7 "...could not be effectively monitored by
8 reporting deviations for a two-year
9 period?

10 A. Yes, that's right. I would agree
11 with you."

12 Why was that a correct statement, Dr.
13 Euler?

14 A. Well, because simply developing a
15 report of how a particular individual had I think
16 deviated from the guidelines in a particular area
17 wouldn't tell anybody much of anything about the
18 relationship between how moose use the area, that's a
19 separate kind of work, and that the deviation reporting
20 is an administrative tool to help us understand what we
21 are doing from an administrative standpoint.

22 Q. Now, in your direct evidence
23 regarding the Interim Direction you said that the
24 intention was to end the reporting requirement in about
25 two years--

1 A. Yes.

2 Q. --when there was a common
3 understanding regarding the proper application of those
4 guidelines.

5 A. Yes.

6 Q. Now, Ms. Seaborn was suggesting in
7 her questioning a deviation reporting scheme based not
8 on the two times approach which is in the Interim
9 Direction, but rather based on the guidelines as
10 written. Do you recall her making that suggestion?

11 A. I remember discussing that, but I
12 just don't remember that exactly.

13 Q. All right.

14 A. But I accept that that happened.

15 Q. On that basis, could you advise if
16 Ms. Seaborn's suggestion was adopted, that you could
17 have deviation reporting on what's in the guidelines as
18 written and not the two times, would that in any way
19 change your view that the Interim Direction should end
20 in about two years for the reasons that you have
21 already described?

22 A. No. No, I wouldn't.

23 Q. Thank you. Dr. Allin, Ms. Seaborn
24 asked you some questions regarding the Fish Habitat
25 Guidelines, in particular she questioned you regarding

1 the level of protection provided with doughnuts under
2 the old approach versus protection provided through the
3 variable width reserves described in the present
4 guidelines.

5 Do you recall the discussion about those
6 matters?

7 Q. Fairly vaguely, I'm afraid, Mr.
8 Freidin.

9 Q. All right. I will get more specific
10 then. The questioning also dealt with the fact that
11 one of the reasons for the variable width reserves was
12 to free up wood where the width of a doughnut reserve
13 was not required for protection of fish habitat or
14 water quality.

15 Could you indicate, Dr. Allin, whether
16 the present Fish Habitat Guidelines apply to more or
17 fewer waterbodies than was the case with the doughnut
18 approach which preceded the present guidelines?

19 A. My understanding of the two systems
20 would be that the present guidelines apply to more
21 waters than did the earlier doughnut approach.

22 Q. Okay. Now, in terms of its
23 application to streams, are you able to particularize
24 in any way whether there was a difference in how
25 streams were addressed back under where you had a

1 doughnut approach and under the present guidelines?

2 A. At the time when we had the doughnut
3 approach, the direction with respect to protection of
4 streams was quite vague, there was no direction
5 provided in terms of protecting warm water streams that
6 I'm aware of. I know that some cold water streams were
7 protected, but certainly the direction for protection
8 of streams with the current guidelines is much more
9 specific and broad than it was at the time when we had
10 the doughnut approach.

11 Q. Do the present guidelines apply to
12 warm water streams?

13 A. Yes, they do.

14 Q. And is it your understanding that it
15 applies to more cold water streams than was the case
16 under the old approach?

17 A. Yes, it would. The current approach
18 would apply to more cold water streams, that's correct.

19 Q. Okay. Now, in terms of lakes, there
20 were lakes which were covered to which the doughnut was
21 applied, can you -- and there are lakes which are now
22 subject to the guidelines. Could you compare the
23 doughnut years to the present guideline situation?

24 A. My understanding is that the
25 doughnuts basically applied to lakes that were over a

1 hundred acres or 40 hectares. The current guidelines
2 are applied to basically lakes that are larger than 10
3 hectares, but they may also be applied to lakes that
4 are smaller than that if they contain some significant
5 fisheries value or have a potential fisheries value.

6 Q. Mr. Clark, I'll ask you a couple of
7 questions which arose out of some questions yesterday
8 from Mr. Hunter. There were some questions asked
9 regarding the cumulative effects of the timber
10 management activities taken together.

11 Now, in assessing the cumulative effects
12 of all those activities taken together, could there be
13 individual effects which would be positive and some
14 individual effects which would be negative?

15 MR. CLARK: A. Yes, that is correct.

16 Q. And in that circumstance, the net
17 cumulative effect could either be positive or negative
18 depending on the particular situation being examined?

19 A. That's correct.

20 Q. Thank you. There were some questions
21 regarding the identification and protection of
22 archaeological sites and religious and cultural sites.
23 You spoke of the involvement of native people in the
24 process and how the timber management planning process
25 is a mechanism for collaboration and agreement. Do I

1 have your evidence correctly?

2 A. That's correct.

3 Q. If within that process you couldn't
4 come to an agreement over whether to protect this type
5 of site, or if a decision to protect it had been made
6 but there was lack of an agreement as to how to protect
7 it, who within the formal timber management planning
8 process makes the decision?

9 A. I believe in that instance as in all
10 others it is the district manager who has ultimate
11 responsibility for making the decision. However, in
12 this particular instance I would stress that decision
13 would have to be made in light of consultation with the
14 individuals involved and with the archaeological
15 community or historical community as represented by the
16 Ministry of Culture and Communications.

17 Q. If that situation did occur and the
18 district manager did make a decision and the native
19 group involved, or the native people involved were
20 unhappy with the decision within that formal timber
21 management planning process, they would have the same
22 avenues of bump-up and other remedies that they may
23 want to avail themselves outside of the process?

24 A. That's correct.

25 Q. Thank you.

1 MRS. KOVEN: Mr. Clark, do you know of
2 any archaeological or heritage sites that were not
3 protected by the Ministry of Natural Resources?

4 MR. CLARK: In my experience I can't
5 think of any that we knowingly don't protect. I think
6 the issue always relates to the problem of: Do we know
7 where they exist in the first place.

8 MRS. KOVEN: Wouldn't you be among the
9 first who would discover these sites?

10 MR. CLARK: We often are. We certainly,
11 because of your field orientation, have contact with
12 the land base and with many people who are making use
13 of the land base and that is certainly one of the
14 primary ways in which we find out about these sites.

15 MR. FREIDIN: Thank you.

16 Q. Now, panel members, I want you to
17 restrain your glee. This is the last question for this
18 panel and I have decided that I was going to give it to
19 your quarterback.

20 So, Mr. Clark, during Mr. Edwards'
21 cross-examination do you recall him asking you to agree
22 that the tourism business sells opportunities, that you
23 could package those opportunities to be \$50 or a
24 thousand dollars and that the latter might be
25 characterizd as a high class wilderness experience.

1 Do you recall that?

2 MR. CLARK: A. Yes, I do.

3 Q. You said you agreed with him.

4 A. I did.

5 Q. Now, you also agreed that there would
6 be greater economic spinoffs from the more expensive
7 wilderness experience.

8 My question for you, Mr. Clark is: What
9 about the people who don't have a thousand dollars to
10 spend on Mr. Edwards' high class wilderness experience
11 but only have 50 bucks; where do they fit into this
12 entire process of timber management planning?

13 A. Well, they are among the member of
14 the public and they have the opportunity like any other
15 group to make their concerns known through that
16 process.

17 Q. And are factors other than the
18 economic bottom line considered by the Ministry when
19 making tradeoff decisions?

20 A. Yes, they definitely are.

21 MR. FREIDIN: Thank you very much,
22 members of the panel. Thank you, Mr. Chairman. Those
23 are my questions.

24 THE CHAIRMAN: Thank you, panel for
25 undergoing an ordeal which I assume you didn't

1 contemplate when you first took your chairs some months
2 ago.

3 I know I will be seeing some of you back
4 on future panels but for those of whom we won't, thanks
5 for your contribution to the hearing to date.

6 ---(Panel withdraws)

7 THE CHAIRMAN: Mr. Freidin, how long are
8 you going to need?

9 MR. FREIDIN: I would appreciate being
10 given until three o'clock. I think we can probably
11 obviously qualify the witnesses and I guess get well
12 into Mr. Hynard's evidence. He will be the first
13 witness.

14 THE CHAIRMAN: Very well, we will adjourn
15 until 3:00 p.m.

16 Thank you.

17 MR. FREIDIN: Thank you, Mr. Chairman.

18 ---Luncheon recess taken at 12:00 p.m.

19 ---On resuming at 3:05 p.m.

20 THE CHAIRMAN: Thank you. Be seated,
21 please.

22 MS. BLASTORAH: We had to do a little
23 rearranging of the furniture, Mr. Chairman, to
24 accommodate our witnesses.

25 THE CHAIRMAN: You realize that we don't

1 have Panel 11's witness statement in front of us. Is
2 that a problem for this session?

3 MS. BLASTORAH: Well, yes, I think it
4 might be. Mr. Hynard I think is going to be referring
5 to at least -- well, Peter, do you have anything that
6 is not going to be on an overhead?

7 MR. HYNARD: No, I don't think that you
8 will have to have that witness statement directly in
9 front of you.

10 THE CHAIRMAN: Okay. Otherwise we can
11 have Mr. Mander get them.

12 MS. BLASTORAH: I don't think it will be
13 necessary for what we are going to do this afternoon,
14 Mr. Chairman.

15 THE CHAIRMAN: Very well.

16 MS. BLASTORAH: One comment I would make
17 is that we are going to have to experiment with the
18 arrangement of the room I think. It's going to be a
19 bit of problem perhaps for the witnesses to see the
20 screen when slides are on the screen and perhaps for
21 people in the room to see it, given that it's sort of
22 behind this pillar.

23 We have tried to accommodate the Board
24 first I guess and perhaps if anybody has any particular
25 complaints, we will try another arrangement.

1 THE CHAIRMAN: Okay.

2 MS. BLASTORAH: I would like to begin by
3 filing a copy of the witness statement for Panel 11 --
4 the Statement of Evidence, rather. There are two
5 volumes, so perhaps we should have an A and a B.

6 THE CHAIRMAN: Very well. That will be
7 Exhibit No. 532A and B.

8 ---EXHIBIT NO. 532A: Panel 11 Statement of Evidence,
9 Volume I.

10 ---EXHIBIT NO. 532B: Panel 11 Statement of Evidence,
Volume II.

11 MS. BLASTORAH: (handed)

12 THE CHAIRMAN: Thank you.

13 MS. BLASTORAH: Mr. Chairman, as you are
14 aware, this is the panel that will be dealing with the
15 renewal activities. I am not going to make a lengthy
16 opening statement for this panel because each of the
17 witnesses are going to be stating the main messages
18 they will attempt to convey through their evidence at
19 the outset of their evidence.

20 Basically this panel of witnesses will
21 deal with implementation in the field of timber
22 management activities related to renewal, specifically
23 natural and artificial regeneration methods, site
24 preparation, and that will include prescribed burning
25 which will be dealt with by a separate witness, Mr.

1 Elliott, who has a particular expertise in relation to
2 that type of site preparation.

3 I would also point out that we will not
4 be addressing in any detail chemical site preparation
5 through the use of herbicides. Again, that is a matter
6 of particular expertise. Herbicides are used in
7 maintenance and tending activities as well as site
8 preparation and in fact they are used more extensively
9 for maintenance and tending, therefore, they will be
10 dealt with in Panel 12 by expert witnesses in that
11 area.

12 I would just point out that the potential
13 environmental effects and the application of herbicides
14 for both purposes are essentially the same so we felt
15 that was the most economic and efficient way to dealt
16 with that. There was no point in repeating the
17 evidence.

18 THE CHAIRMAN: To deal with it in 12?

19 MS. BLASTORAH: To deal with it in 12.

20 THE CHAIRMAN: Okay. And that will
21 probably give sufficient time, Mr. Freidin, in the
22 event that as a result of the motion on Monday the
23 Board should rule that we are going into that subject
24 in a more detailed way; is that correct, for 12?

25 MR. FREIDIN: Yes, yes, and it will

1 depend on the specific ruling the Board makes should it
2 decide that that issue will be canvassed, as to whether
3 it will affect the proponent's case and, if so, you
4 know, the extent to which -- I think it's difficult in
5 advance of a ruling to determine how a ruling might
6 affect the --

7 THE CHAIRMAN: No, no, we are aware of
8 that and in view of the material that has been filed on
9 that motion, I think the parties can reasonably expect
10 that we will not be delivering a ruling next Monday, we
11 will probably be reserving on it and consider it
12 carefully after hearing submissions and argument.

13 At such time as we do render a ruling,
14 depending of the course on which way that ruling goes,
15 then you can decide how you can accommodate that ruling
16 vis-a-vis either this panel or Panel 12.

17 MS. BLASTORAH: Yes, Mr. Chairman. I
18 would not anticipate that it would affect this panel
19 since by the time any ruling comes down we would have
20 already led our evidence, and I am indicating that it
21 will be dealt with in 12.

22 But, in any event, I anticipate that we
23 will probably be five full sitting days leading the
24 evidence from these nine witnesses and then we
25 anticipate, of course, fairly extensive

1 cross-examination based on the statements of issue. So
2 I expect that we will have some time to react to
3 whatever the ruling is.

4 THE CHAIRMAN: Very well. And we will
5 probably be -- we probably won't even complete - this
6 is just in anticipation - the direct evidence by the
7 end of next week given the fact that we are sitting
8 three days and we will be dealing all of Monday I
9 suspect with the procedural matters and possibly even
10 part of Tuesday because we have a scoping session to
11 accommodate as well on Monday or Tuesday.

12 MS. BLASTORAH: That is what I had
13 anticipated, Mr. Chairman. I would just ask one point
14 of clarification. With regard to next Wednesday, have
15 you decided how long you will be sitting? Would that
16 be a short day or a long day?

17 THE CHAIRMAN: Well, we would like --
18 yes, I think we would like to sit later than normal.
19 Because I can't be present on Thursday and Friday, it
20 might be more advantageous if we planned to take out
21 the later flight than the one at 5:10 so we could sit
22 most of the day and get in three full days next week.

23 MS. BLASTORAH: So by that I can
24 anticipate two, three or four o'clock perhaps?

25 THE CHAIRMAN: That's right, and it may

1 be difficult to make the 5:10 flight so I would suggest
2 that parties perhaps book a later flight than that.

3 MS. BLASTORAH: Thank you.

4 THE CHAIRMAN: Actually, Mrs. Koven
5 advises me that sort of the next flight out after the
6 5:10 is about --

7 MS. BLASTORAH: It's 8:55 I believe.

8 THE CHAIRMAN: 8:55.

9 MS. BLASTORAH: The direct flight any
10 way.

11 THE CHAIRMAN: We might anticipate --

12 MS. BLASTORAH: I believe there's a
13 Canadian flight at 7:30 I'm advised.

14 THE CHAIRMAN: All right. Well, we will
15 probably end up sitting that day until five or 5:30 and
16 then we can all take the flight out after that time.

17 MS. BLASTORAH: Thank you.

18 THE CHAIRMAN: Oh ahead.

19 MS. BLASTORAH: Okay. Just continuing on
20 with the outline of the evidence you will be hearing.

21 Lastly under the optional aspect, we will
22 hear evidence on the tree improvement program and seed
23 production as they relate to the renewal activity.

24 In this panel you will also hear evidence
25 about the effects of the renewal activities and the

1 evidence will be that those effects are, generally
2 speaking, positive. Mr. Greenwood, Mr. Allin, Mr.
3 Clark and Mr. Hogg will be addressing those matters and
4 Mr. Freidin will be leading that evidence.

5 As I have already indicated, we expect to
6 sit about five working days for the evidence-in-chief.

7 THE CHAIRMAN: Very well.

8 MS. BLASTORAH: I believe the next matter
9 is to qualify the witnesses. Several of the witnesses
10 have already been qualified in previous panels. Dr.
11 Allin is already qualified, Mr. Hynard, Mr. Greenwood,
12 Mr. Clark and Mr. Kennedy are already qualified.

13 I would like to qualify Mr. Wait as a
14 field forester (that is W-a-i-t-o) with particular
15 expertise in boreal forestry.

16 THE CHAIRMAN: Any objections from any
17 parties with respect to that qualification?

18 (no response)

19 Very well, he will be qualified as a
20 field forester with expertise in boreal forestry.

21 MS. BLASTORAH: Thank you. Mr. Elliott
22 is a forester with particular expertise in fire
23 management (that is E-l-l-i-o-t-t).

24 THE CHAIRMAN: Any objections?

25 (no response)

1 Very well, so qualified.

2 MS. BLASTORAH: Mr. Hogg is a wildlife
3 biologist. Sorry, Mr. Chairman. Finally Mr. Baker is
4 a forester with particular expertise in technology
5 development and tree improvement and the infrastructure
6 supporting the artificial regeneration program.

7 Thank you, Mr. Chairman.

8 THE CHAIRMAN: Any objections to the
9 qualifications of Mr. Hogg and Mr. Baker?

10 (no response)

11 Very well, both witnesses will be
12 qualified in those areas.

13 MS. BLASTORAH: Thank you, Mr. Chairman.
14 Do you wish to swear the witnesses at this time, the
15 ones that aren't already sworn?

16 THE CHAIRMAN: Could the witnesses who
17 haven't yet been sworn please come up to the table,
18 please.

19 JOHN TRUMAN ALLIN,
20 PETER PHILLIP HYNARD,
21 RICHARD BRUCE GREENWOOD,
22 CAMERON D. CLARK,
23 FRANK D. KENNEDY, Recalled
24 WILLIAM DOUGLAS BAKER,
25 ROBERT ELLIOTT,
 WILLIAM ORVAL WAITO,
 DAVID M. HOGG, Sworn

24 MS. BLASTORAH: It is kind of a sad
25 comment when we lay traps for our own witnesses.

1 DIRECT EXAMINATION BY MS. BLASTORAH:

2 Q. The first witness today will be Mr.
3 Hynard. I guess there is no rest for the wicked, Mr.
4 Hynard.

5 I believe you have some overheads you
6 would like to use to assist you in outlining your
7 evidence?

8 MR. HYNARD: A. Yes, I do. I expect
9 that it will take me the better part of a day to
10 deliver my evidence. It will not be identical to my
11 witness statement in that I have tried to elaborate and
12 clarify on points of interest to the other parties that
13 were raised in interrogatories and statements of issue.
14 I understand these to be the areas of interest to the
15 other parties. Similarly, I will not be covering a
16 second time evidence that already came forward in Panel
17 10.

18 I will just put an overhead on the screen
19 briefly so that you have an idea of what you are going
20 to be facing for the next day.

21 Q. Would that be better with the lights
22 out, Mr. Hynard, or do you think it's all right?

23 A. I think it's all right.

24 Q. Okay.

25 A. Actually the contents of my evidence

1 over the next day, it is different in two areas. There
2 has been an expansion in the introduction to deal with
3 choosing the regeneration method, natural or
4 artificial.

5 There is an expansion also in Item No. 3,
6 Regeneration Statistics, and there are three elements
7 to those statistics; the first one being regeneration
8 activities in relation to harvest. And there I am
9 including both natural regeneration methods and
10 artificial.

11 The second area of statistics is on
12 non-treatability. Non-treatability seems to be an area
13 of interest to other parties.

14 The third area is a breakdown of natural
15 regeneration methods or at least the techniques that
16 are used to obtain natural regeneration of commercially
17 preferred species.

18 In the item listed 4: Factors
19 Influencing the Choice of Regeneration Methods, I am
20 going to dwell on that only briefly because much of
21 this material was covered already in Panel 10, with the
22 exception of 4(iv) past results. I will elaborate a
23 little bit on how past results on a management unit
24 influence the decisions on regeneration methods.

25 I would say I will spend about a third of

1 the time on slides, slides depicting some Ontario
2 applications of natural regeneration methods for our
3 major commercial species and, in the course of the
4 slides, I will be elaborating on the factors that
5 influence the choice of the regeneration method.

6 MS. BLASTORAH: Would you like to mark
7 that overhead, Mr. Chairman, or do you think it's...

8 THE CHAIRMAN: Yes. We might as well
9 mark it as well. Exhibit 533. So what would this be,
10 an overhead of an overview of Panel 11's evidence?

11 MR. HYNARD: Yes. Let's call it -- not
12 Panel 11, my own particular evidence. Let's call it
13 Table of Contents for Natural Regeneration Methods.
14 ---EXHIBIT NO. 533: Table of Contents for Natural
15 Regeneration Methods.

16 MR. HYNARD: Now, to the task at hand. I
17 am going to begin my evidence with an overhead showing
18 the overall picture for regeneration for Ontario and to
19 provide you with the three main messages that I would
20 like you to keep in mind during the course of my
21 evidence.

22 MS. BLASTORAH: I have copies of that --
23 hard copies of this graph, Mr. Chairman, to provide to
24 the parties.

25 THE CHAIRMAN: We might as well mark it

1 then, Exhibit 534.

2 MS. BLASTORAH: Actually, Mr. Chairman,
3 the hard copy that I have has three separate pages. It
4 has this graph plus another graph Mr. Hynard is going
5 to be using later, plus a table of figures that I
6 believe is the numbers from which these graphs were
7 compiled. Is that correct, Mr. Hynard, the third page?

8 MR. HYNARD: That's correct.

9 MS. BLASTORAH: So perhaps we could mark
10 that 534A, B and C.

11 THE CHAIRMAN: Very well.

12 ---EXHIBIT NO. 534A: Graph depicting level of
13 regeneration in comparison to
level of harvest.

14 ---EXHIBIT NO. 534B: Graph depicting regeneration
15 methods.

16 ---EXHIBIT NO. 534C: Table of figures depicting
regeneration statistics.

17 MS. BLASTORAH: Q. Mr. Hynard, could you
18 just indicate if the data shown on this graph is for
19 the province or the area of the undertaking?

20 MR. HYNARD: A. The data is derived from
21 the MNR statistics book for all Crown land in Ontario.

22 It does not relate exactly to the area of
23 the undertaking, but it's so close that the graph
24 accurately depicts or portrays the regeneration scene
25 in Ontario.

1 This overhead shows the level of
2 regeneration in comparison to the level of harvest.
3 The red line at the top is the level of harvest that
4 has taken place over the past years. Along the bottom
5 axis we have year, from 1980-81 to 1987-88 and along
6 this axis we have the area.

7 The red line at the top shows the level
8 of harvest cut in Ontario in each of those years. The
9 solid green area at the bottom of the graph shows
10 natural regeneration methods where the intent was to
11 regenerate commercially preferred species.

12 The orange block is the area that has
13 been treated by artificial methods, again for
14 commercially preferred species.

15 The third area, the area in white at the
16 top is the gap between the areas regenerated by natural
17 and artificial methods for commercially preferred
18 species and the harvest.

19 This is the area that one hears sometimes
20 referred to as the cut and walk away. Cut and walk
21 away in the sense that it is harvested but no
22 regeneration treatments are carried out on the
23 cut-over.

24 During the course of our evidence we will
25 do our best to explain this area to you, why it exists,

1 what it looks like, and what happens to it following
2 harvest.

3 The first of the three messages that I
4 will ask you to keep in mind during my own evidence
5 relates to natural regeneration methods.

6 THE CHAIRMAN: Excuse me, just to get it
7 straight in my own mind. The white area, does that
8 represent the area on which nothing is done by man to
9 assist either natural regeneration like site
10 preparation or artificial regeneration?

11 MR. HYNARD: That's correct.

12 THE CHAIRMAN: Does that also -- Let me
13 put it this way: that also doesn't mean that there is
14 no regeneration in that area?

15 MR. HYNARD: That's correct.

16 THE CHAIRMAN: There can be natural
17 regeneration unassisted by man?

18 MR. HYNARD: Absolutely.

19 THE CHAIRMAN: Okay.

20 MS. BLASTORAH: Q. I believe we will see
21 a picture of that later in your presentation, Mr.
22 Hynard.

23 MR. HYNARD: A. Oh, yes. You will hear
24 lots about it.

25 The first of the three messages I would

1 like you to keep in mind during the course of my
2 evidence relates to the first area, areas regenerated
3 by natural means to commercially preferred species,
4 this green block at the bottom of the graph.

5 And that message is that the successful
6 use of these methods, natural regeneration methods, to
7 regenerate commercially preferred species is limited.
8 It is limited by the availability of suitable stand and
9 site conditions. Their use -- the use of those
10 methods, cannot simply be expanded to fill that
11 so-called regeneration gap if it is commercially
12 preferred species that we are seeking.

13 The second message --

14 MRS. KOVEN: Excuse me, Mr. Hynard. Are
15 you saying that's in the limitation of the land base
16 itself?

17 MR. HYNARD: That's right.

18 MRS. KOVEN: Setting aside everything
19 including economic factors?

20 MR. HYNARD: Yes. During the course of
21 the evidence, Mrs. Koven, we are going to be talking
22 about the various methods and where they are suited and
23 where they are not. And, in fact, natural regeneration
24 methods are limited by certain stand and site
25 conditions, at least where they can be used

1 successfully to regenerate commercially preferred
2 species and we will be talking about that in some
3 detail. They are limited by the nature of the land.

4 The second message relates to artificial
5 methods and that is the area shown as orange on the
6 graph. That's exhibit number...?

7 MS. BLASTORAH: Q. That's 534A.

8 MR. HYNARD: A. 534A. And that message
9 is that the use of these artificial methods is limited.
10 It is limited by the availability of nursery stock and
11 the dollars that are necessary to prepare the sites,
12 plant the trees, and tend them. There is potential for
13 expansion of these methods to close the so-called gap.

14 The third message relates to the gap
15 itself, the area in white at the top of the graph. And
16 that includes areas which are non-treatable and areas
17 which are in a treatable condition but are nonetheless
18 left untreated. And that message is, it is our
19 evidence that these untreated areas do regenerate
20 naturally, albeit primarily to commercially
21 non-preferred species.

22 There are sound reasons to harvest these
23 areas despite our inability to treat them, and the
24 effects of our actions here on other forest uses and
25 values are no greater than those on treated areas.

1 (That should read Bev those on -- Marilyn, on treated
2 areas, not those untreated areas.)

3 I am going to remove the overhead now. I
4 know you have questions about it in your mind and that
5 overhead will return. In fact, it will return later
6 with further breakdowns of that untreated area shown in
7 white at the top of the graph.

8 My first -- my next topic will be
9 choosing the regeneration method, artificial or
10 natural. First of all, let's start with a couple of
11 definitions. Let's define artificial regeneration
12 methods as those methods based on planting; that is,
13 the planting of nursery stock or the sowing of
14 collected tree seed. Artificial methods then are based
15 on the planting of nursery stock or the sowing of
16 collected tree seed.

17 Natural regeneration methods then include
18 all of those methods that do not include planting or
19 seeding. In many cases, however, the natural
20 regeneration of commercially preferred species is
21 encouraged or assisted in some way, either through the
22 use of a silvicultural harvest system, by seedbed
23 preparation, competition control, or careful logging to
24 protect advanced reproduction, or perhaps even some
25 combination of those.

1 Virtually all of the forested stands that
2 are being harvested today were in fact regenerated
3 entirely by natural means usually following wild fire,
4 and while those wild forest stands often contain high
5 volumes of excellent timber, this is dependent upon the
6 site conditions, the intensity of the burn, and the
7 timely occurrence of a seed crop and several years of
8 favourable weather conditions at the time of stand
9 origin. In nature, these necessary conditions may be
10 met only periodically.

11 I'm going to digress for a moment, if I
12 may. In my witness statement I used eastern hemlock as
13 an example of a tree species that has experienced
14 extreme difficulty regenerating itself by natural
15 means, and in that witness statement I made a statement
16 that read:

17 "Hemlock in the Algonquin region is an
18 extreme example of this difficulty.

19 While quite extensive in this area,
20 hemlock has not produced any significant
21 quantity of natural regeneration for over
22 100 years."

23 And by significant quantity I mean
24 sufficient to -- sufficient regeneration to maintain
25 its representation in the forest community over time.

1 Q. I understand an interrogatory was
2 received in relation to this material?

3 A. That's right. The OFIA asked -- the
4 hemlock question raised the interest of the OFIA, and
5 rather than spend further time on the subject I think
6 we should just file that interrogatory and our
7 response.

8 MS. BLASTORAH: I have four copies for
9 the Board, Mr. Chairman. We have some copies for the
10 parties, although they would have already received the
11 response.

12 THE CHAIRMAN: Very well. Exhibit 535.

13 MR. HYNARD: That should have been the
14 OFIA/OLMA combined, that interrogatory.

15 ---EXHIBIT NO. 535: Interrogatory filed by OFIA/OLMA.

16 MR. HYNARD: All of my comments in the
17 witness statement and the response to that
18 interrogatory part (c), are based on my personal
19 observations as a forester who has worked and lived in
20 hemlock country for near 20 years, and the observations
21 of my colleagues also.

22 The point of all this is that the natural
23 world is a tough place, too. The species composition
24 of any one piece of ground may change over time through
25 successional trends, but when that natural catastrophe

1 inevitably arrives, the new stand which originates
2 there may not necessarily be the same as the last one.
3 Sometimes, often perhaps, certainly not always.

4 It depends upon those factors that I
5 mentioned that determine the nature of that wild forest
6 stand at its origin, the site conditions, the intensity
7 of the burn, the timely occurrence of a seed crop and
8 several years of favourable weather conditions.

9 These difficulties for natural
10 regeneration can be aggravated even further when it is
11 logging and not wild fire that leaves the condition
12 under which the new stand must establish itself, at
13 least for most of Ontario's commercially preferred
14 species. It is, after all, the wild fire conditions
15 with which these species have evolved over time and
16 unlike fire, logging, even clearcutting without
17 measures to protect advanced rereproduction, tends to
18 favour those species which are present on the forest
19 floor at the time of the cut, and those species which
20 tend to regenerate by vegetative means.

21 Fire destroys advanced reproduction and
22 tends to favour more those species which can establish
23 from seed.

24 MS. BLASTORAH: Q. Is this equally true
25 of both types of -- both forest types in the area of

1 the undertaking?

2 MR. HYNARD: A. Well, it's certainly
3 true of the boreal forest and it's also true of much of
4 the area within the Great Lakes/St. Lawrence Forest
5 too.

6 Well, so far I have been talking really
7 about the manner in which forest stands regenerate
8 themselves following logging or wild fire if left
9 entirely to their own devices.

10 As you know, we have timber management
11 objectives to meet and we don't leave forest stands
12 entirely to their own devices: we plant, we seed, and
13 we often assist natural regeneration through the use of
14 one of the silvicultural harvest systems or by seedbed
15 preparation, by competition control, or by careful
16 logging around advanced growth.

17 Upon what criteria do foresters decide
18 whether to go for natural regeneration or whether to
19 spend those big dollars and regenerate the cut-over by
20 artificial means? The first consideration is cost.
21 Natural regeneration's big advantage is low cost. Tree
22 planting is expensive. It costs money to collect seed,
23 extract it, store it, sow it, grow it, lift it, store
24 it again, ship it hundreds of miles and then plant it.

25 Natural regeneration methods can cost

1 money too as we saw in Panel 10. The extra logging
2 costs associated with strip clearcutting, for example,
3 the opportunity cost of blown down timber, but
4 invariably natural methods are cheaper than artificial
5 methods overall and they are generally preferred
6 wherever they can produce a satisfactorily regenerated
7 stand and wherever the added advantages of planting
8 cannot be justified by the extra cost.

9 Q. In making that statement, Mr. Hynard,
10 do you include the cost of natural regen -- in the cost
11 of natural regeneration the cost of tending, et cetera?

12 A. Yes, you have to look at treatment
13 packages, equivalent packages. However, natural
14 regeneration may require tending also. Cost is the
15 first criteria, expected results is the second
16 criteria; the expected results in the judgment of the
17 unit forester that will follow the treatment options
18 available to him.

19 Unfortunately, natural methods will not
20 produce a satisfactorily regenerated stand with all
21 species and on all site types. The big advantage of
22 planting is that it places an already started seedling
23 on a freshly prepared site in exactly the location
24 where it will do best. Nursery stock, especially
25 bareroot stock is much heartier than naturals and it

1 makes a faster start. This can be an absolute
2 necessity on a competition-prone site.

3 A third criteria is risk. There is no
4 doubt that on tricky sites natural methods which rely
5 on natural seeding are riskier than placing a nursery
6 grown seedling on a freshly prepared site.

7 Q. What do you mean by tricky site in
8 that context, Mr. Hynard?

9 A. Well, by tricky I mean difficult and
10 difficulty usually equates to problems in competition
11 control. If there are no incidental costs associated
12 with a shot for naturals, in an attempt to get
13 naturals, then really there may be very little at risk.

14 But on tricky sites naturals do not
15 normally volunteer themselves unassisted and cut-overs
16 that are left idle for several years awaiting natural
17 regeneration become more expensive to treat
18 artificially. Usually when natural methods fail,
19 artificial methods are required to overcome the
20 problem.

21 A fourth criteria is necessity.
22 Regeneration by natural means may be also used by
23 necessity, not by choice, on sites which are
24 untreatable by artificial means, untreatable because of
25 a lack of access, because of rough ground, too much

1 rock, poor drainage or too much residual timber. In
2 this case, the regeneration may be of commercially
3 non-preferred species for the simple reason that it is
4 impossible to secure the regeneration of preferred
5 species on that site by natural means.

6 By commercially non-preferred species, I
7 do not mean that they are non-utilizable, I mean
8 non-preferred. And I will be discussing further later
9 on in this evidence what species they are and to what
10 degree they are utilizable.

11 Similarly, cut-overs may be left
12 untreated, not because of their non-treatability, but
13 because of a scarcity of nursery stock or the dollars
14 necessary to plant them, including the site preparation
15 and tending costs. I am talking now of sites which are
16 in a treatable condition which require treatment in
17 order to regenerate species that are commercially
18 preferred, but which we are unable to treat for fiscal
19 reasons.

20 Q. On the types of stands you have just
21 described, Mr. Hynard, what would happen to
22 commercially valuable timber if it were not harvested?

23 A. We discussed this to some degree in
24 Panel 10 already. In many cases, that timber will be
25 lost to natural causes at any rate, and further on in

1 the evidence I will be giving more details on why the
2 harvest is justified despite our inability to treat the
3 cut-over.

4 Q. Is the productivity of these sites
5 affected by the removal of the commercially preferred
6 species?

7 A. I should distinguish between
8 productivity and potential productivity. Certainly the
9 potential productivity is not affected in any way; the
10 soil remains the same, nutrient pools remain virtually
11 the same, and the potential productivity of the land
12 remains undiminished. The actual productivity can be
13 reduced for the simple reason that we are regenerating
14 to a less productive species or at least a less
15 desirable species from a woodflow point of view.

16 I would like to now move on to Item 2
17 that was on that Table of Contents and those are the
18 natural regeneration methods themselves. So far we
19 have covered only the choice between artificial or
20 natural methods and I would like now to look at those
21 natural methods.

22 The first one is vegetative methods.
23 Vegetative reproduction refers to the ability of many
24 tree species to produce suckers or sprouts from dormant
25 buds located on the roots, the root collar or the

1 stump. Black spruce, for example, will produce roots
2 from dormant buds located on branches that are in
3 contact with the ground, which is another form of
4 vegetative reproduction.

5 In my witness statement I used the term
6 copus and copus methods. Today I am going to use the
7 term vegetative methods which is perhaps a more correct
8 term to encompass all forms of vegetative reproduction.

9 Most hardwood species will sprout or
10 sucker to some degree, although the degree of sprouting
11 and the desirability of the regeneration so produced
12 varies from species to species. In addition, the
13 degree of sprouting and the vigor of the sprouts is a
14 function of light intensity, the amount of sunlight
15 that's reaching those young trees.

16 Clearcuts produce more copus and more
17 vigorous copus; that is, vegetative reproduction than
18 do partial cuts. Regeneration of vegetative origin is
19 very fast starting and competitive. The reason for
20 that is that it has all the carbohydrate reserves of
21 the parent root system stored to give those suckers a
22 fast start, and they are able to outgrow all forms of
23 competition, although their growth rates level off in a
24 few years to a more normal rate. Only the clearcut
25 silvicultural system is used to establish natural

1 regeneration from vegetative means.

2 The second type of natural regeneration
3 is regeneration from advanced growth. The term
4 advanced reproduction or advanced growth refers to
5 seedlings or saplings that are on the forest floor or
6 in the understorey prior to the harvest cut. The
7 ability to produce advanced reproduction varies from
8 species to species and even then this is very much site
9 related. Some species like hard maple can produce
10 advanced reproduction in the order of a quarter of a
11 million stems per hectare while other species like jack
12 pine produce virtually none.

13 Advanced reproduction is produced in
14 quantity only by those species which are relatively
15 shade tolerant and capable of establishing on an
16 unprepared seedbed. Advanced reproduction is not
17 always the same species as the main overstorey.

18 Q. What is the significance of that, Mr.
19 Hynard?

20 A. Well, the significance of that is
21 that if you rely on advanced growth for regeneration
22 you may not end up with the species best suited to the
23 site or the species that you desire.

24 These seedlings and saplings on the
25 forest floor are very much suppressed by the low light

1 levels of the understorey, but they are released by
2 stand opening, either as a result of partial cutting,
3 clearcutting or natural stand breakup. Where advanced
4 reproduction occurs in sufficient numbers to restock
5 the stand, it can be used as a natural regeneration
6 method. Careful logging around the advanced growth may
7 be necessary, especially if the young trees are of low
8 stocking or at a stage of development vulnerable to
9 damage. And I am referring here to the type of wide
10 tired full-tree logging operation that Mr. Oldford
11 showed you in Panel 10.

12 Q. At what stage or stages are those
13 seedlings or saplings most vulnerable?

14 A. Well, they are least vulnerable when
15 they are very small and they become more vulnerable as
16 they get larger.

17 Natural -- or sorry, regeneration methods
18 to establish natural regeneration from advanced
19 reproduction can include any of the silvicultural
20 harvest systems. Selection, for example, is used in
21 hard maple and hard maple relies on advanced
22 reproduction to regenerate itself.

23 The third category of natural methods is
24 regeneration by natural seeding. Most wild forest
25 stands originated from natural seeding following a wild

1 fire and natural regeneration following logging can
2 also be secured from natural regen -- from natural
3 seeding in some circumstances.

4 All tree species have seedbed preferences
5 and most species have specific requirements with regard
6 to a suitable seedbed for seed germination and seedling
7 establishment. The ability to make a fast start and
8 out-compete the associated vegetation is too a specific
9 trait and very much site related.

10 In order for natural regeneration from
11 natural seeding to be successful, three conditions must
12 exist concurrently. First of all, we must have a
13 sufficient seed source either in standing trees or in
14 harvest slash; secondly, we must have a suitable
15 seedbed and seedling environment for germination and
16 establishment. By seedling environment I mean adequate
17 space, light, moisture, nutrient and protection from
18 dessication. And, thirdly, there must be relative
19 freedom from competition during the establishment
20 period. All three conditions must exist concurrently.

21 Let's look at some of the difficulties
22 that tree species then face regenerating naturally by
23 natural seeding. First of all, natural regeneration is
24 often delayed by the periodicity of seed crops. Five
25 years or more may pass before sufficient seed is

1 released to regenerate the cut-over. Jack pine
2 regeneration may be delayed up to five years even where
3 viable seed is present in the harvest slash.

4 A second factor. Most conifers, indeed
5 most species, are relatively slow starters from seed.
6 They are at a competitive disadvantage when faced with
7 suckers or sprouts of vegetative reproduction and when
8 faced with advanced growth. For all of these reasons,
9 natural regeneration methods which rely on natural
10 seeding work best only on relatively competition-free
11 sites where the cut-over will remain vacant during a
12 relatively long regeneration period.

13 By vacant, I mean that the cut-over will
14 remain unoccupied by competing vegetation to the extent
15 at least that sufficient shade -- sorry, sufficient
16 space, light, moisture and nutrient remains for natural
17 regeneration to establish and develop successfully.

18 If seed crops are periodic and if not all
19 sites will remain vacant during the establishment
20 period to the extent that these species require, can
21 the use of natural regeneration methods by natural
22 seeding be expanded by having the harvest coincide with
23 the seedfall; in other words, have the harvest coincide
24 with the seedfall so we don't have to sit vacant during
25 that lengthy period. Many sites will not sit for any

1 period of time at all, a year or two at best, certainly
2 not as long as may be required.

3 Unfortunately that technique is not
4 possible. First of all, the seed crop of most species
5 can be predicted reliably only several months before
6 seedfall. In addition, seed crops may appear only
7 every three to five years or more and when they occur
8 they often cover vast areas.

9 In the 15 years that I have been in
10 Minden there have been three major bumper crops of
11 white pine seed; 1977, 1980 and 1983. And during those
12 bumper crops, they extended across the entire Algonquin
13 region and beyond.

14 Under such circumstances it simply is not
15 feasible to have the logging coincide with natural
16 seedfall. You would have to harvest all of the
17 allocated stands across those vast areas all during
18 that short period prior to seedfall.

19 A number of silvicultural harvest systems
20 are used to establish regeneration by natural seeding.
21 They include the clearcut, clearcuts with seed trees,
22 clearcuts with group seed trees, strip clearcuts, strip
23 shelterwood and uniform shelterwood. Natural
24 regeneration by natural seeding may be encouraged or
25 assisted by scarification or treatments to control

1 competition.

2 I would like to move on now to
3 regeneration statistics.

4 MS. BLASTORAH: Mr. Chairman, the graph
5 that Mr. Hynard has just put up on the overhead is
6 Exhibit 534B on the handout.

7 THE CHAIRMAN: Very well.

8 MR. HYNARD: The first statistic I would
9 like to cover is regeneration activities in relation to
10 harvest.

11 Back in Panel 10 Ms. Swenarchuk asked the
12 question: Of the 175,983 hectares clearcut in 1986-87,
13 how many hectares were left for natural regeneration.
14 At that time I referred her to our reply to a Forests
15 for Tomorrow interrogatory in Panel 11, Question No. 8.

16 MS. BLASTORAH: I would like to file that
17 at this point, Mr. Chairman.

18 THE CHAIRMAN: Exhibit 536.

19 ---EXHIBIT NO. 536: Answer to Interrogatory Question
20 No. 8 filed by Forests for
Tomorrow (Panel No. 11).

21 MS. BLASTORAH: (handed)

22 MR. HYNARD: I also promised at that time
23 to expand on that information in Panel 11. Well,
24 here's Panel 11. Let's take a closer look at that
25 exhibit and what it means.

1 The area in green includes all natural
2 regeneration methods intended to regenerate
3 commercially preferred species. It would include all
4 regeneration methods, all natural regeneration methods,
5 for example, clearcuts for poplar, group seed tree cuts
6 and strip cuts for spruce, shelterwood cuts for pine
7 and selection cuts for maple. They would all be
8 included in that green category here.

9 MS. BLASTORAH: Q. Would that also
10 include scarification for jack pine?

11 MR. HYNARD: A. Yes, that is included in
12 there also.

13 MS. SWENARCHUK: Excuse me. I didn't get
14 all those down. Would you mind repeating that, Mr.
15 Hynard?

16 MR. HYNARD: Sure. Those were examples,
17 Ms. Swenarchuk, and not meant to be exhaustive. I will
18 have the exhaustive list for you in a further breakdown
19 shortly, but the ones that I included were clearcuts
20 for poplar, group seed tree cuts and strip clearcuts
21 for spruce, shelterwood cuts for white pine and
22 selection cuts for hard maple, with that addition of
23 scarification for natural jack pine.

24 You will note that the share of total
25 regeneration by natural methods for commercially

1 preferred species has remained relatively stable over
2 time and it is our evidence that that type of
3 regeneration is limited by the availability of suitable
4 stand and site conditions.

5 You will note too that the area treated
6 by artificial means, planting and seeding, has slowly
7 grown. Every year our performance in that area has
8 improved and it's our evidence that the potential of
9 artificial methods -- there exist potential for
10 artificial methods to expand further, but that we are
11 limited by the availability of nursery stock and by
12 dollars. Well, it all boils down to dollars.

13 MR. MARTEL: Could I ask a question: Did
14 you not throw away, MNR this past year, I think I read
15 3-million nursery stock?

16 MR. HYNARD: I heard that story too.

17 MR. MARTEL: I just asked because I read
18 it in the paper.

19 MR. HYNARD: I think it's a very
20 complicated story and it's certainly one that I'm not
21 able to explain. It sounds ridiculous on the surface,
22 but it's far more far reaching than that.

23 I would like to repeat my personal plea
24 to those who favour tools -- new tools and new rules,
25 that the time and the dollars that we spend on other

1 areas, it's another day and another dollar that we will
2 not be spending in the woods; that our budgets are
3 finite and it is our preference to direct them to
4 silvicultural areas where they are best used. That
5 unfortunately is a simple fact of life that we face
6 every day on the job.

7 You can see too that the area in white at
8 the top has steadily shrunk and it's steadily shrunk in
9 relation to our growth particularly in the artificial
10 methods.

11 Let's take a closer look at the area in
12 white. And that brings me to our statistics on
13 non-treatability. Between 1983 and 1985, those years
14 that show right here on the graph, between this year
15 and this year our Ministry collected data on
16 non-treatability and non-treatable in this case means
17 uneconomic or impractical to treat. It does not mean
18 impossible to treat, it means uneconomic or impractical
19 in our view.

20 There were two categories of
21 non-treatability, the first category is the area shown
22 in brown right here and it is non-treatable because of
23 residual timber, too much residual timber to be able to
24 effect site preparation and planting.

25 The second category was non-treatable for

1 other reasons, that's the area shown in yellow right
2 here, and those other reasons included too distant from
3 summer access to carry out planting or other treatment
4 during the summer, the ground was too rough, too rocky,
5 too wet, some physical limitation like that that made
6 it uneconomic or impractical to treat.

7 MRS. KOVEN: Excuse me, Mr. Hynard. Have
8 you ever been requested by the public not to treat an
9 area, and I'm thinking in terms obviously of areas that
10 people would like to keep away from future timber
11 management activity.

12 MR. HYNARD: Yes. Are you referring to
13 treatment alone following the cutting, or are you
14 including the harvest and the treatment together?

15 MRS. KOVEN: I'm talking subsequent to
16 harvest?

17 MR. HYNARD: Yes, I have. I guess the
18 example that comes to my mind is a serial treatment of
19 tramp, spray, burn and plant behind a cottage
20 development. I received the request, although we have
21 not come to resolution over that issue with the
22 cottagers' association at this point. In fact their
23 annual meeting is on July the 1st and it's my hope that
24 they will accept that treatment will not affect them
25 adversely and is good for timber productivity in that

1 case.

2 MRS. KOVEN: What if they are not
3 concerned about timber productivity though, what if the
4 concern is in fact the opposite and they would prefer
5 to leave an area to regenerate naturally to a
6 non-commercial species to preclude future timber
7 management activities?

8 MR. HYNARD: For the simple reason that
9 they never want to have another crop taken off 80 or
10 a hundred years from now.

11 MRS. KOVEN: That would be one reason.

12 MR. HYNARD: Well, of course, when you
13 have unresolved issues like that the final decision is
14 made by the district manager and we've heard all about
15 that management planning process, and I couldn't tell
16 you how he would rule.

17 We are now really discussing a
18 hypothetical one. I think what he would have to look
19 at is the seriousness of the request, the degree to
20 which the party will himself be affected and if we are
21 talking about 60 or 80 or 100 years from now that they
22 might be affected, I would discount that personally to
23 some degree -- to a large degree. But it happens, yes,
24 that kind of question does arise.

25 MS. BLASTORAH: Q. Mr. Hynard, just a

1 couple of questions arising out of that. The type of
2 situation that Mrs. Koven described to you last, have
3 you ever encountered that type of situation where
4 the --

5 MR. HYNARD: A. No. No, I haven't. I
6 think the far more likely one, Mrs. Koven, is where the
7 other party is unwilling to see all-weather access
8 installed in the area to allow treatment to occur.
9 They don't want -- it's not that they don't want the
10 area returned to productivity, it's that they don't
11 want access in the area and, unfortunately, it's not
12 possible to treat without access.

13 Q. Mr. Greenwood, have you ever
14 experienced that type of situation?

15 MR. GREENWOOD: A. Yes. I was going to
16 jump in with that example, but Mr. Hynard has explained
17 it exactly the way that it could take place, where
18 because of another value access is winter only and that
19 precludes access in summer for treatment.

20 Q. So do I understand then that the
21 concern would be related to access and not with
22 precluding future harvest?

23 A. That's correct. As with Mr. Hynard,
24 I have never run into the situation where the public
25 specifically wanted a non-preferred species to be

1 renewed so that a return cut could not take place. I
2 have never had that situation.

3 THE CHAIRMAN: Well, would you not get
4 that situation occasionally where the public wants a
5 certain area to remain wilderness?

6 MR. HYNARD: That's usually an attempt to
7 preclude the cutting in the first place not the
8 follow-up treatment.

9 MR. GREENWOOD: That's correct. So it's
10 not a renewal question, it becomes then a harvest
11 question to begin with.

12 MR. HYNARD: Yes.

13 THE CHAIRMAN: And they would want to
14 preclude the cutting so that what would come after the
15 cutting would not be a more desirable species which
16 would mean more cutting and more harvesting down the
17 road?

18 MR. HYNARD: I think it just boils down
19 to very simply no harvest, not now not any time.

20 MS. BLASTORAH: Q. In those situations,
21 Mr. Hynard, would the concern be with regard to
22 commercial or non-commercial species?

23 MR. HYNARD: A. No, the concern there is
24 with regard to really disturbance in the forest itself.

25 MR. GREENWOOD: A. Excuse me. With this

1 question as well there is no guarantee that natural
2 regeneration isn't going to renew some commercial
3 species and, in fact, sometimes that can't be judged
4 prior to the harvest. And, therefore, I think that
5 would be fairly sophisticated for somebody to be able
6 to determine that ahead of time and then to take that
7 line of thinking that if we allowed natural to take
8 place there will definitely not be any preferred
9 species there and, therefore, that is the route we
10 would like to take.

11 MR. HYNARD: A. We are discussing
12 non-treatable areas, this area here on the graph, and I
13 believe that the extent of non-treatable areas will
14 diminish over time. And the reason that I believe that
15 that will occur is, first of all, with regard to the
16 areas that are untreatable because of residual timber,
17 timber markets are constantly improving for these less
18 desirable species.

19 For example, the consumption of poplar
20 over the last four years alone has grown by 70 per cent
21 and poplar is the main species which is residual and
22 prevents follow-up treatment.

23 While we are on the topic of less
24 preferred species, balsam fir is another one. It's
25 less preferred, it is marketable, it is marketed, it is

1 utilized. In fact, balsam fir is marketed with white
2 spruce, black spruce and jack pine. In lumber it's all
3 marketed together as eastern spruce. In fact, when you
4 buy your 2 by 4s it may say eastern spruce stamped on
5 it, you may be buying balsam fir.

6 Why is it non-preferred then. It's
7 non-preferred by the lumber industry essentially
8 because of its small size which reduces yield and
9 increases manufacturing costs and, secondly, because of
10 its high defect.

11 THE CHAIRMAN: Is the industry allowed to
12 mislabel something?

13 MR. HYNARD: Oh, it's not mislabeled,
14 that's correct. That is how it's marketed: Jack pine,
15 white spruce, black spruce, red spruce and balsam fir
16 are all known as eastern spruce in the trade. It's
17 not -- it's not a deception.

18 THE CHAIRMAN: It would just be somebody
19 like me going to the lumberyard that might get--

20 MR. HYNARD: That's right.

21 THE CHAIRMAN: --upset?

22 MR. HYNARD: With regard to areas that
23 are non-treatable for other reasons, new site
24 preparation techniques have materilized over the years
25 and they -- and further developments will cause this

1 non-treatable area to diminish. And I am thinking
2 there of equipment like TTS scarifiers that Mr. Kennedy
3 is going to describe to you, prescribed burning like
4 Mr. Elliott will be describing to you.

5 MS. BLASTORAH: Q. Mr. Elliott, while we
6 are on that point, do you see any room to expand the
7 usage of prescribed burning as a site preparation tool?

8 MS. ELLIOTT: A. Yes. There is
9 opportunities to expand the use of prescribed burning
10 given bright sites and the money to do the job.

11 Q. Thank you.

12 MR. HYNARD: A. I guess the third
13 limitation causing non-treatability is access and
14 access is constantly improving, and I expect that that
15 too will be less of a factor in the future. I am
16 talking about the very long term.

17 We can see on the graph that the areas
18 classified as non-treatable between 1982-83 and 1985-86
19 did diminish but only to a small degree.

20 THE CHAIRMAN: Do you have any estimate
21 of what those areas would be like if you kept it up for
22 the succeeding three years?

23 MR. HYNARD: No, I don't, Mr. Chairman.
24 I just feel that there is a trend for non-treatable
25 areas to diminish over time. Now, to what degree it

1 has taken place in the past three years, well it would
2 be enough to show on that graph or not, I can't say.

3 Back in Panel 10 when we were on the
4 topic of non-treatable areas I said that foresters had
5 two choices. This is the face of the incomplete timber
6 marketing. And his first -- he has two options. His
7 first option is to bypass the timber, to decide not to
8 harvest it at all and you recall I gave an example on
9 my own unit.

10 If that timber were able to remain
11 standing, it's not in danger of stand breakup and it is
12 practical to return there when future markets develop,
13 then it is possible to bypass the stand altogether and
14 return for it at some future point. That is option No.
15 1.

16 But I said that there was that second
17 option, and that second option occurs where the stand
18 is too small to be worthwhile for a return because the
19 road system would have to be reconstructed or
20 maintained during that period, or perhaps the timber
21 will be lost to natural causes at any rate and that's
22 certainly true of overmature timber, old timber in
23 northern Ontario, it's often the case.

24 And if for those reasons the forester
25 elects to harvest the stand, he leaves it in a

1 non-treatable condition. That is that brown category
2 right there.

3 In my opening remarks I said that there
4 were sound reasons to carry out that harvest despite
5 our inability to effect treatment and there are
6 essentially four reasons and all of them are pretty
7 straightforward.

8 That first reason, as I said, it may be
9 totally impractical to return for that cut. The size
10 of the stand, it's volume or its value may simply not
11 justify the reconstruction of those roads. And the
12 second reason is that if that timber is bypassed, if we
13 deliberately say: I will not harvest that stand
14 because if I do it will be non-treatable and I bypass
15 it, the timber may be lost to natural agents anyway.
16 The third reason.

17 MS. BLASTORAH: Q. Just before you go
18 on, Mr. Hynard, could you give an example what you mean
19 by that lost to natural agents?

20 MR. HYNARD: A. Yes. I am referring
21 there to natural stand breakup and natural stand
22 decadence that is a factor of time. Timber stands as
23 they age, the trees become older, they grow more
24 slowly, they are less vigorous, they are more
25 susceptible to decay, they become vulnerable to

1 windthrow. We find that in older stands they lose
2 stocking and the trees that remain lose merchantable
3 volume through decay. And that's the process that I am
4 talking about.

5 Q. In addition to that, might
6 infestation for instance from insect pests be a problem
7 as in any other stand?

8 A. Well, yes, as you say, as in any
9 other stand.

10 Q. Thank you.

11 A. The third reason -- the third reason
12 to not bypass that stand under those circumstances is
13 that we are limited in the amount of area that we can
14 treat at any rate. If we were to bypass that stand,
15 bypass the stand that would be non-treatable in favour
16 of cutting a more treatable stand, we would still not
17 increase our ability to effect treatment because we are
18 limited by the dollars that we have for artificial
19 regeneration methods.

20 I think that situation should be
21 perfectly clear. If we bypass that stand, if we take
22 that philosophical view that we shouldn't cut it if we
23 can't treat it and we leave it standing and we cut
24 instead a stand which will be treatable, it will be in
25 a treatable condition, that doesn't mean for a moment

1 that we will be able to treat that stand because it
2 will not change our overall resources of nursery stock
3 and dollars.

4 The fourth reason, the fourth I believe
5 sound reason for carrying out the harvest despite the
6 fact that the stand is non-treatable is that the
7 effects of cutting without treatment on those other
8 forest uses and other forest values are no greater here
9 than they are on treated areas. These areas receive
10 the same area of concern treatment -- area of concern
11 process as any other stand.

12 As for the effects on timber production,
13 these areas do regenerate, albeit primarily to
14 commercially non-preferred species, and I should say
15 primarily there would be natural regeneration, some
16 degree of stocking of preferred species and the fact
17 that they are regenerating to non-preferred species
18 does not mean that they will be non-utilizable at their
19 maturity because of these trends of increasing
20 utilization that have been occurring over time.

21 Both the Ministry of the Environment and
22 Forests for Tomorrow requested information in
23 interrogatories on the area -- the extent of area
24 classified as non-treatable and the tree species to
25 which these areas regenerate.

1 MS. BLASTORAH: I would like to file
2 those, Mr. Chairman. They are Ministry of the
3 Environment Interrogatory No. 8 and Forests for
4 Tomorrow Interrogatory No. 18.

5 THE CHAIRMAN: You are filing them
6 together?

7 MS. BLASTORAH: I have them stapled
8 separately, so perhaps we could give them separate
9 numbers.

10 THE CHAIRMAN: All right. The first one
11 will be Exhibit 537 and the second 538.

12 MS. BLASTORAH: So that Ministry of the
13 Environment No. 8 is 537 and Forests for Tomorrow No.
14 18 is 538.

15 ---EXHIBIT NO. 537: MOE Interrogatory Question No. 8
16 (Panel 11).

17 MS. BLASTORAH: I beg your pardon, the
18 Forests for Tomorrow Interrogatory was 18. I think I
19 said 8.

20 ---EXHIBIT NO. 538: Forests for Tomorrow Interrogatory
21 Question No. 18 (Panel 11).

22 THE CHAIRMAN: Ms. Blastorah, I am
23 suggesting we take a break at this time and -- perhaps
24 before we get into this exhibit, and if we come back
25 and perhaps go to 5:30. Would that be acceptable?

1 MS. BLASTORAH: Q. Mr. Hynard is that --
2 are you able to hold out until 5:30? It's been a long
3 day for you.

4 MR. HYNARD: A. I can go all night, but
5 I think...

6 MS. BLASTORAH: The one concern I have,
7 Mr. Chairman, I don't know that this is a really good
8 point for Mr. Hynard to break. I don't think he was
9 going to address the interrogatory. Perhaps if we
10 could go another five minutes or so it would be a
11 better point.

12 MR. HYNARD: Could I have three or four
13 minutes and then we can make a break.

14 THE CHAIRMAN: Very well.

15 MR. HYNARD: Mr. Greenwood has just
16 corrected me. I think he's absolutely right that the
17 classification for eastern spruce is correctly
18 spruce/pine/fir and I think it's SPF. It's stamped on
19 the 2 by 4s now. I certainly wouldn't want to leave
20 the impression that there is some deception here.

21 MR. CASSIDY: My client appreciates that.

22 THE CHAIRMAN: I just bought some wood
23 the other day on the weekend and I haven't checked the
24 labeling yet, but I shall this weekend.

25 MS. BLASTORAH: Q. Mr. Hynard, do you

1 know whether it would make any difference to the
2 quality? Put you on the spot here.

3 MR. HYNARD: A. I'm sure, you are buying
4 excellent -- this is Ontario.

5 THE CHAIRMAN: I wouldn't buy anything
6 else.

7 MR. HYNARD: It's the best.

8 MS. BLASTORAH: Perhaps we will wait to
9 hear back from the Chairman next year.

10 THE CHAIRMAN: When my deck collapses.

11 MS. BLASTORAH: It twists and turns.

12 MR. HYNARD: I, as I am sure all Ontario
13 foresters, like to walk away from a cut only after we
14 have seen a vigorous young stand free to grow. And
15 what I have been describing to you is an imperfect
16 world. It is no more nor less perfect in the area of
17 forestry than in other walks of life, but I think it's
18 important that the Board see the regeneration situation
19 in Ontario fully and it is an imperfect world, these
20 are real limitations.

21 MS. BLASTORAH: Q. Mr. Hynard, to what
22 extent in your opinion can the gap between the area
23 harvested and the area intentionally regenerated to
24 commercially preferred species which is represented by
25 the white area on the Exhibit 534B be eliminated by the

1 increased use of natural regeneration methods such as
2 modified harvest cuts?

3 A. Okay. The question then is: To what
4 degree can this area here be reduced by an expansion of
5 the area in green; that is, these relatively
6 inexpensive natural regeneration methods to reforest
7 with commercially preferred species.

8 Well, I can't give a definitive statement
9 to the extent to which that could occur. I mean, there
10 may be opportunities but certainly it is limited.
11 Those techniques are limited, as I've described to you,
12 by the site and stand conditions. So I would say to a
13 very limited degree, not to a significant degree.

14 MS. BLASTORAH: Perhaps this would be an
15 appropriate point for a break, Mr. Chairman.

16 THE CHAIRMAN: Okay. We will take 20
17 minutes.

18 ---Recess taken at 4:30 p.m.

19 ---On resuming at 5:05 p.m.

20 THE CHAIRMAN: Thank you. Be seated,
21 please.

22 MS. BLASTORAH: Q. Mr. Hynard, before
23 the break I think you were about to start a discussion
24 of a breakdown of natural regeneration methods?

25 MR. HYNARD: A. Yes, that's the third

1 area of statistics that were not included in the
2 Statement of Evidence for Panel 11 which I would now
3 like to give you.

4 MS. BLASTORAH: Mr. Chairman, this is a
5 second package of graphs, two pages, that we would like
6 to file at this time.

7 THE CHAIRMAN: Exhibit 539.

8 MS. BLASTORAH: Perhaps we could mark
9 them A and B, there are two pages.

10 THE CHAIRMAN: Very well.

11 MR. HYNARD: Ms. Blastorah, what was that
12 exhibit number?

13 MS. BLASTORAH: The exhibit number is
14 539A is the first page, and 539B. The first page is
15 one pie graph titled: Breakdown of Natural
16 Regeneration Techniques 1987/88. And the second page,
17 539B, is titled: Breakdown of Natural Regeneration
18 Techniques 1985/86 to 1987/88. And it is Exhibit 539A
19 that you have up on the overhead now.

20 ---EXHIBIT NO. 539A: Slide entitled: Breakdown of
21 Natural Regeneration Techniques,
1987/88.

22 ---EXHIBIT NO. 539B: Slide entitled: Breakdown of
23 Natural Regeneration Techniques
1985/86 to 1987/88.

24 MR. HYNARD: Exhibit 539A, that graph
25 that is on the screen before you is a breakdown of the

1 natural regeneration methods that were represented by
2 the area shaded green on the previous overhead.

3 So what we are now looking at is a
4 breakdown of those natural regeneration methods that
5 were intended to regenerate commercially preferred
6 species.

7 Now, looking at that pie graph, the
8 largest area - these are figures for 1987/88 - the
9 largest single method of natural regeneration for
10 commercially preferred species was selection cutting at
11 39 per cent. That's this area in pink on the pie graph
12 and those are essentially selection cuts in the Great
13 Lakes/St. Lawrence Forest region for maple.

14 The second largest technique for natural
15 regeneration of commercially preferred species was
16 clearcutting at 34 per cent. That's the area shown as
17 green on the pie graph right here. (indicating)

18 Now, the clearcutting would include
19 clearcutting poplar stands to regenerate poplar on
20 those sites and in those locales where poplar is a
21 commercial preferred species. So I am thinking of
22 places like Timmins and in the vicinity of Thunder Bay
23 and other areas in Ontario where poplar is a commercial
24 species and where it is being intentionally regenerated
25 on certain sites.

1 It could include too clearcutting of
2 maple stands that were relying on advanced production,
3 it could include the clearcutting of black spruce
4 stands similarly relying on advanced reproduction.

5 The third largest category is shelterwood
6 cutting and -- Catharine, I can't see the number from
7 here, can you see that number?

8 MS. BLASTORAH: Q. 16 per cent.

9 MR. HYNARD: A. 16 per cent. 16 per
10 cent of the area shown in green on the previous
11 overhead is regeneration using the shelterwood cutting
12 method.

13 So that would be shelterwood for yellow
14 birch, it could be uniform shelterwood or strip
15 shelterwood for yellow birch, it would include uniform
16 shelterwood for white pine and uniform shelterwood for
17 hard maple. All of those techniques would be included
18 in that category right here. (indicating)

19 The next largest category is seed tree
20 cutting and that number I think is 8 per cent.

21 Q. It is 6 per cent. Actually, it is
22 just the figure 6. I assume that's supposed to be 6
23 per cent.

24 A. Yes, 6 per cent. I'm sorry, I can't
25 see very well from this angle, 6 per cent, and that

1 seed tree cutting would include group seed tree cutting
2 for black spruce on lowland sites.

3 Q. (handed)

4 A. Thank you. The next largest category
5 is HARO, the area in brown, it looks like it's brown
6 from here, at 3 per cent.

7 Mr. Greenwood mentioned to you in Panel
8 10 that HARO is actually an accounting system and it is
9 an accounting system. It's the area that -- the slides
10 that you saw in Panel 10 where careful logging around
11 advanced growth is being practiced in lowland black
12 spruce stands and black spruce layerings are often very
13 spotty in occurrence, they are not necessarily uniform
14 across the stand that's being cut. And so with regard
15 to HARO, there is often infill planting that follows
16 the harvest to fill in those holes.

17 And that hybrid between artificial and
18 natural methods is called -- or is accounted for by the
19 name HARO. That's this area right here. (indicating)

20 The last category is strip cutting at 2
21 per cent, and that's the area in yellow. Strip cutting
22 of black spruce stands, strip clearcutting of black
23 spruce stands on both lowland and shallow upland sites.

24 Now, I mentioned a figure this morning of
25 1 per cent during re-examination with regard to strip

1 cutting. Mr. Freidin asked the question: How much
2 strip cutting was done in Ontario and referred me to
3 page 89 of Volume I, Panel 10, and that 1 per cent is 1
4 per cent of the total harvest cut. The figure of 2 per
5 cent here means 2 per cent of areas regenerated by
6 natural means to commercially preferred species. So
7 the numbers aren't at odds with each other.

8 Now, I would like to put another graph up
9 to show you the trends over time.

10 Q. And that graph is Exhibit 539B. I
11 believe it is a series of pie graphs; is that correct?

12 A. That's correct. And on 539B there
13 are three years shown, 1985/86, 86/87 and 87/88. The
14 graph is constructed exactly the same as Exhibit 539A.

15 You can see that the breakdown in
16 treatment types has remained stable over the past three
17 years. The share of the total by the various methods
18 has remained relatively stable. There are some ups and
19 downs, it's true, but it has remained relatively
20 stable.

21 I guess the one difference that you will
22 notice if you look closely at the exhibit is that HARO
23 appears only in 1987/88. It is the first year in which
24 we began accounting for HARO in our statistics. Not
25 the first year we did it, but it's the first year we

1 started accounting for it separately.

2 The next subject area is factors that
3 influence the choice of the regeneration method and
4 factors that influence the natural regeneration method.
5 And as for the harvest, it is the forester who is
6 responsible for the management of the unit, who chooses
7 the regeneration method including the natural
8 regeneration method, and his prescriptions are
9 contained within the silvicultural groundrules of the
10 management plan, just as we have discussed for other
11 silvicultural treatments.

12 In the witness statement for Panel 11 I
13 listed five considerations that influence the choice of
14 the natural regeneration method, the first of which was
15 silvical characteristics of the trees being grown, and
16 I think we should include there the silvical
17 characteristics of the species that are associated with
18 those trees too.

19 The reason that I include both of those
20 is that competitive -- relative competitive advantages
21 is important in deciding upon silvicultural
22 prescriptions.

23 The second category was terrain, site and
24 stand conditions and they are factors in the
25 regeneration method because they can affect two things:

1 One is the harvest system itself, you will recall was
2 influenced by those factors. They can affect
3 treatability too. Terrain, site and stand conditions
4 can affect treatability by artificial means.

5 The third category was constraints on the
6 ability of the manager to effect a complete
7 silvicultural harvest. There we are talking about the
8 extent of residuals left following cutting which can
9 affect treatability.

10 The fourth category was past results,
11 past results on the unit and past results on other
12 units under similar conditions.

13 And the fifth category was the economic
14 efficiency of alternatives or options that the forester
15 has before him.

16 I am not going to go through those
17 factors in any detail because we did so largely in
18 Panel 10, and the Chairman did make me promise not to
19 repeat any of that financial analysis stuff.

20 What I would like to do instead is when I
21 go through the various Ontario applications, when I go
22 through the slides, I would like to point out which of
23 those factors was important in that particular choice
24 one-by-one. It won't be exhaustive by any means, but
25 you will get a feel for how those different factors

1 affect the choice.

2 MS. BLASTORAH: Just for the record, Mr.
3 Chairman, those factors are listed on page 101 of the
4 witness statement which is Exhibit 532A.

5 MR. HYNARD: Before I leave the factors
6 that influence the choice of methods, I would like to
7 address some of the questions that were raised in
8 interrogatories and statements of issue. They are of
9 interest to the parties and I think they are of
10 interest to everyone in the room.

11 One of the questions was: Is the list
12 complete, are there only five factors. And well, no,
13 it is not complete. In fact, one of the most obvious
14 ones sprang to my mind after and that is the
15 availability of funds to carry out treatment. It has a
16 tremendous effect on the choice of the method, and that
17 relates back to necessity, one of those factors that I
18 mentioned to you earlier is necessity. There was cost,
19 there was risk, there was expected results and
20 necessity.

21 Are those factors listed in any order of
22 comparative significance? Well, no, they are not.
23 They are not weighted and they are not rated. They
24 weren't intended to be listed in any order of
25 comparative significance, but I think the first one,

1 the silvical characteristics of tree species, really
2 sets the stage for what you can do and can expect and
3 that those other four factors being terrain, site and
4 stand condition, economics, past results, ability to
5 make a complete cut, are factors that further refine or
6 modify the options.

7 How is uncertainty taken into account?

8 In answering that one I would like to distinguish
9 between risk and uncertainty. Risk is the chance that
10 things will go wrong, and I think inherent in an
11 evaluation of risk is the consequences that you can
12 expect when things do go wrong.

13 Risk can be calculated and it is possible
14 to take calculated risks. One could calculate risk as
15 the rate of plantation failure, for example, or the
16 percentage of times that stands treated in that fashion
17 on that kind of a site fail to meet the minimum
18 stocking standards or the objective that you had set.

19 And the consequences of things going
20 wrong could be calculated as a cost of retreatment.
21 And that's what I mean by calculated risk. Let me give
22 an example of that and it will be from hardwood country
23 because I come from hardwood country.

24 In carrying out selection marking for --
25 or carrying out tree marking for selection cutting in

1 hard maple stands, I instruct my tree markers to take
2 risk into account. If a marker in assessing a 12-inch
3 maple tree looks at it, looks at the condition of the
4 tree, sees that it is affected by dieback and he gives
5 it a 50/50 chance of recovery, he is not sure whether
6 the tree will recover or whether it will not. The tree
7 has a present value now standing of about a dollar but
8 if the tree does recover it has the potential to grow
9 into a \$20 tree within 20 years. So he has got a 50/50
10 chance of increasing his value 20-fold.

11 His choice there is pretty clear, that
12 the consequences of being wrong he only could lose a
13 dollar, the potential for growth is great. He is going
14 to keep that tree, he is going to give that tree a
15 chance.

16 If, on the other hand, a 20-inch maple
17 tree, a much larger and more valuable tree were to have
18 the same defect he would look at it differently. He
19 would say: I've got a 50/50 chance of losing \$40 and
20 really prime log for our local mills and that chance
21 would be too great for him, the consequences of being
22 wrong would be too great.

23 So how do we take risk into account? I
24 would like to think that we take it into account
25 intelligently.

1 Uncertainty, on the other hand, is not
2 knowing for sure what events will happen, and I think
3 inherent in its meaning is a precision of prediction.
4 In Panel 10, Dr. Euler was trying for the quote of the
5 day when we said: If there is one thing that you can
6 be sure about in resource management, it's that you are
7 going to be wrong. Well, Dave was right.

8 In a business like ours of growing timber
9 over rotations of 50 and 100 years, you can be sure
10 that you're not going to be dead right, but that
11 doesn't mean that you are going to be dead wrong
12 either. Our ability to understand the future and the
13 results of our present activities are revealed to us
14 only as the future unfolds.

15 So how do we take uncertainty into
16 account? Well, we take it into account in our
17 management plans, we revise them every five years, we
18 reset our objectives every five years, we rethink our
19 strategies, we rewrite our silvicultural prescriptions,
20 we have a chance to do it all over again every five
21 years and we do. That's how we take uncertainty into
22 account.

23 MS. BLASTORAH: Mr. Chairman, we are at a
24 convenient breaking point and I see it is almost 5:30.
25 Would this be a good place to stop for the day?

1 THE CHAIRMAN: I think so. It has been a
2 long day for everybody. Very well, we will adjourn
3 until nine o'clock tomorrow morning.

4 Thank you.

5 ---Whereupon the hearing adjourned at 5:25 p.m., to be
6 reconvened on Wednesday, May 3rd, 1989, commencing
at 9:00 a.m.

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